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Water Resources Data for Oregon

Part 1. Surface Water Records

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DEPARTMENT OF THE INTERIOR
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Prepared in cooperation with the State Engineer of Oregon
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United States Department of the Interior
Geological Survey - Water Resources Diviison

WATER RESOURCES DATA
FOR
OREGON
1967

Part 1: Surface Water Records

Prepared in cooperation with

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Copies of this report may be obtained from
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P. O. Box 3202
Portland, Oregon 97208

1968

Water resources records, 1967, for Oregon are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Oregon

   Part 1: Surface Water Records

2. Water Resources Data for Oregon

   Part 2: Water Quality Records

CALENDAR FOR WATER YEAR 1967

OCTOBER 1966

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JANUARY 1967

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MAY 1967

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JUNE 1967

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JULY 1967

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WATER RESOURCES DATA FOR OREGON, 1967

Part 1. Surface Water Records

INTRODUCTION

The surface-water records for the 1967 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of Oregon are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey, under the direction of Stanley F. Kapustka, district chief, Portland, Oreg.

Through September 30, 1960, the records of discharge and stage of streams and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Since 1951 there have been 20 volumes in the series; each volume covered an area the boundaries for which coincided with those of certain natural drainage areas. The records in Oregon were contained in Parts 10, 11, 13, and 14 of that series.

Beginning with the 1961 water year, streamflow records and related data are being released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. Records will be published in Geological Survey water-supply papers at 5-year intervals. These water-supply papers will show daily discharge and will be compiled on a drainage-boundary basis.

COOPERATION

Cooperative agreements between the U.S. Geological Survey and organizations of the State of Oregon for the systematic collection of streamflow records began in 1905. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreements with the Survey are:

State of Oregon, C. L. Wheeler, State Engineer.
Oregon State Game Commission, P. W. Schneider, Director.
Oregon State Board of Higher Education, Richard L. Collins, secretary.
Oregon State Highway Commission, G. L. Jackson, chairman.
Coos, Clatsop, Douglas, Lane, and Washington Counties.
Cities of Astoria, Coos Bay-North Bend, Eugene, McMinnville, Monmouth, Portland, The Dalles, and Toledo.
Burnt River and North Unit Irrigation Districts.

Assistance in the form of funds or services was given by the Forest Service, U.S. Department of Agriculture; Corps of Engineers, U.S. Army; Bonneville Power Administration, Bureau of Reclamation, Fish and Wildlife Service, and Federal Water Pollution Control Administration, National Park Service, U.S. Department of the Interior; Weather Bureau, U.S. Department of Commerce; Coos-Curry Electric Cooperative; Eugene Water & Electric Board; Idaho Power Co.; Pacific Power & Light Co.; Portland General Electric Co.

DEFINITION OF TERMS AND ABBREVIATIONS

The terms of streamflow and other hydrologic data, as used in this report, are defined as follows:

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimes will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

Partial-record station is a particular site where limited streamflow data are collected systematically over a period of years for use in hydrologic analyses.

Cubic foot-per second (cfs) is the rate of discharge of a stream whose channel is 1 square foot in cross-sectional area and whose average velocity is 1 foot per second.

Cubic feet per second per square mile (cfsm) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Runoff in inches (in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Acre-foot (ac-ft) is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

Stage-discharge relation is the relation between gage height and the amount of water flowing in a channel, expressed as volume per unit of time.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, a long reach of the channel, or an artificial structure.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

The drainage area of a stream at a specified location is that area, measured in a horizontal plane, which is so enclosed by a topographic divide that direct surface runoff from precipitation normally would drain by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBERS

Stations are listed in the same downstream order used in the water-supply papers. Records are listed in a downstream direction along the main stem with all stations on a tributary entering above a main-stem station listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention shows which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. The numbers have been assigned in the same downstream order used in the annual series of water-supply papers. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations, so that the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive.

The complete eight-digit number for each station, such as 14-1910.00, includes the part number "14" and a six-digit station number. In this report, the nonessential zeros are not shown. For example, the complete number 14-0360.00 would appear as 14-0360., just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. The records of stage are obtained from a water-stage recorder that gives a continuous chart of fluctuations or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

A rating table, giving the discharge for any stage, is prepared from a stage-discharge relation curve defined by discharge measurements. If a curve extension is necessary to define the extreme discharge, the extension is made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, or logarithmic plotting. The application of the daily mean gage height to the rating table gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of a change in the physical features that form the control, the daily mean discharge is determined by a shifting-control method. Correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating table.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. The slope method is then used in which the fall in a reach of the stream is a factor in determining discharge. The slope (or fall) is obtained by means of an auxiliary gage set at some distance from the base gage. When the stage-discharge relation is affected by changing stage, the rate of change in stage is used as a factor in determining discharge.

The stage-discharge relation is sometimes affected by ice and it becomes impossible to compute the discharge in the usual manner. Discharge for these periods is computed on the basis of the gage-height record, discharge measurements, temperature and precipitation information, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins.

Occasionally the water-stage recorder fails to operate properly because the intakes are plugged, the float is frozen in the well, or because of malfunction in the recorder mechanism. For such periods, the daily discharges are estimated on the basis of any available information such as recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins.

The data in this report generally,comprise a description of the station and a table showing the daily, monthly, and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1967 water year is shown on Page III to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps

available. River mileage given under "Location" for some stations is that determined by Columbia Basin Interagency Committee unless otherwise noted. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record. The reference to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge; the minimum daily discharge, if, in general, it exceeds the momentary minimum by as much as 50 percent; and the minimum gage height if it is useful. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record is given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. All gage heights refer to present datum unless noted otherwise. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

The daily table gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in discharge during the day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharges for several parts of the day. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage, or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. The line headed "Max" is the maximum daily discharge for the month. The line headed "Min" is the minimum daily discharge for the month. Only the first day of either occurrence is shown. Discharge for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm"), or in inches (line headed

"In."), or in acre-feet (line headed "Ac-ft"). Figures for cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the average annual rainfall on the drainage basin is less than 20 inches.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges, not the momentary discharges when the water was at crest stage. Likewise, the minimums in this summary are the minimum daily discharges.

Peak discharges for most stations, the times of their occurrence, and the corresponding gage heights are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Time of day is expressed in 24-hour local standard time, for example 12:30 a.m. is 0030, 1:30 p.m. is 1330. Peak discharges are not published for any stream for which the peaks are subject to substantial control by man.

In a general footnote, introduced by the word "Note," certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published each year for all reservoirs for which records are published on a daily basis, but it is not published for reservoirs for which only monthly data are given.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

The station description, under "Remarks," states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than fair accuracy.

Discharge at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

Figures of mean daily discharge are shown to the nearest hundredth of a cfs for discharges less than 1 cfs. This has been done as a matter of uniformity in the computer program and should not be construed to indicate an accuracy greater than that used in the past.

OTHER DATA AVAILABLE

Data collected at partial-record stations and at miscellaneous sites are given at the end of this report in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements at miscellaneous sites are given in the second table.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1960 have been analyzed with an electronic computer to give: (1) The number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. Some of these statistical analyses have been updated through 1965.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part 2 of this report. Under the "Remarks" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

Runoff during the period October 1966 to July 1967 was generally within a normal range except for excesses in the coastal area of the State November through January and deficiencies in the northwest quarter May through July.

During August and September Oregon experienced the hottest and driest period of record with drought conditions existing over the entire State. No measurable rainfall occurred for a period of over 70 days. Many tributaries of the Willamette River, in which the flow had never been known to cease, went dry, mostly because of diversions for irrigation.

Drought conditions affected all facets of the State's economy. Many crops dependent on irrigation supplements were lost. The logging industry was at a complete standstill due to extreme fire danger, and many forest areas were closed also to all recreational activities.

GAGING STATION RECORDS

THE GREAT BASIN

WARNER LAKES BASIN

10-3660. Twentymile Creek near Adel, Oreg.

Location.--Lat 42°04', long 119°57', in NW¼ sec.25, T.40 S., R.23 E., on left bank 1.5 miles downstream from Twelvemile Creek and 8 miles southwest of Adel.

Drainage area.--194 sq mi, including 46 sq mi in Cowhead Lake area.

Records available.--March 1910 to July 1916, December 1917 to September 1919, and March 1921 to June 1922 (published as "near Warner Lake"), September 1940 to November 1944, March 1945 to September 1967.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,560.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 21, 1940, staff gage or water-stage recorder at sites within 1 mile downstream at various datums. Sept. 21, 1940, to Nov. 30, 1944, water-stage recorder at site 1 3/4 miles upstream at different datums. Mar. 12, 1945, to June 28, 1952, water-stage recorder at site 70 ft upstream at datum 0.88 ft higher.

Average discharge.--32 years (1910-15, 1918-19, 1940-44, 1945-67), 49.1 cfs (35,550 acre-ft per year).

Extremes.--Maximum discharge during year, 1,290 cfs Mar. 16 (gage height, 8.11 ft); minimum, 1.8 cfs Aug. 25.

1910-19, 1921-22, 1940-67: Maximum discharge, 3,670 cfs Dec. 23, 1964 (gage height, 16.1 ft), from rating curve extended above 920 cfs on basis of contracted-opening measurement of 3,260 cfs; no flow at times.

Remarks.--Records good. No regulation. Diversions in Oregon for irrigation of 240 acres above station; considerable diversions for irrigation in Cowhead Lake area in California.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	4.1	40	7.0	177	189	35	43	122	35	2.5	3.7
2	2.9	4.1	40	6.5	111	101	34	40	106	31	2.9	3.7
3	2.9	4.1	62	8.2	81	62	54	52	105	28	2.9	3.7
4	2.5	4.5	28	8.2	60	40	81	81	98	26	2.5	4.1
5	2.5	4.5	36	7.6	42	30	68	78	101	23	2.5	5.0
6	2.5	5.0	28	7.6	36	33	73	91	117	23	2.5	5.5
7	2.5	5.0	19	8.8	28	68	195	123	120	21	2.2	4.5
8	2.5	5.0	16	7.0	23	91	153	128	120	19	2.5	4.1
9	2.9	4.5	15	8.8	21	118	90	154	122	19	2.5	3.7
10	2.5	4.5	15	7.0	26	102	72	132	112	18	4.5	3.7
11	2.5	5.0	14	7.6	40	54	62	129	106	14	4.5	3.7
12	2.9	5.5	50	8.2	97	38	53	140	102	11	4.5	4.1
13	3.3	6.0	194	8.2	141	34	68	179	91	10	4.5	4.5
14	3.3	5.5	116	8.2	60	30	74	132	84	9.4	4.1	4.1
15	3.7	5.5	48	8.2	43	25	72	99	84	8.8	4.1	4.1
16	3.7	11	31	8.0	34	696	74	108	84	9.4	4.1	4.1
17	3.7	10	23	7.5	38	517	52	128	84	11	4.1	4.1
18	3.7	8.2	18	7.0	74	299	55	153	81	8.8	3.7	4.5
19	3.7	7.6	16	6.5	72	147	64	173	84	8.2	3.7	4.1
20	2.9	23	16	6.5	34	110	66	183	83	7.6	3.7	3.7
21	3.7	16	16	6.0	26	122	56	209	79	7.0	3.7	3.7
22	4.1	13	11	6.0	54	199	65	247	71	6.5	3.7	3.7
23	4.1	10	12	6.0	140	128	65	269	64	6.5	3.7	3.7
24	4.5	7.6	11	7.0	144	92	60	253	54	6.0	3.3	3.7
25	4.1	8.8	11	8.0	87	86	68	195	51	6.0	2.5	3.7
26	4.1	8.8	11	10	72	68	70	175	48	6.0	3.7	3.7
27	3.7	8.8	10	14	130	76	84	185	48	5.0	3.7	3.7
28	3.7	10	10	34	230	83	81	179	45	6.0	4.1	3.3
29	3.7	30	9.0	644	- - - - -	56	67	177	40	5.0	4.1	3.3
30	3.7	44	8.2	525	- - - - -	45	56	135	38	3.3	3.7	3.3
31	3.7	- - - - -	7.6	253	- - - - -	38	- - - - -	120	- - - - -	3.7	3.7	- - - - -
Total	103.1	289.6	941.8	1,665.6	2,121	3,777	2,167	4,490	2,544	402.2	108.4	118.5
Mean	3.33	9.65	30.4	53.7	75.8	122	72.2	145	84.8	13.0	3.50	3.95
Max	4.5	44	194	644	230	696	195	269	122	35	4.5	5.5
Min	2.5	4.1	7.6	6.0	21	25	34	40	38	3.3	2.2	3.3
Ac-ft	204	574	1,870	3,300	4,210	7,490	4,300	8,910	5,050	798	215	235

Cal yr 1966: Total 6,163.8 Mean 16.9 Max 235 Min 2.2 Ac-ft 12,230
Wtr yr 1967: Total 18,728.2 Mean 51.3 Max 696 Min 2.2 Ac-ft 37,150

Peak discharge (base, 510 cfs).--Jan. 29 (1700 hrs) 1,270 cfs (8.09 ft); Mar. 16 (1800 hrs) 1,290 cfs (8.11 ft).

10-3700. Camas Creek near Lakeview, Oreg.

Location.--Lat 42°13', long 120°06", in NW¼ sec.2, T.39 S., R.22 E., on left bank 0.2 mile downstream from Blue Creek and 12 miles east of Lakeview.

Drainage area.--63 sq mi, approximately.

Records available.--September 1912 to November 1914, March to May 1915, December 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 5,472.41 ft above mean sea level (State Highway Department bench mark). Sept. 11, 1912 to May 9, 1915, water-stage recorder or staff gage at site 500 ft upstream at different datum.

Average discharge.--19 years (1912-14, 1950-67), 45.5 cfs (32,940 acre-ft per year).

Extremes.--Maximum discharge during year, 610 cfs May 19 (gage height, 3.83 ft); minimum, 2.4 cfs Oct. 1-10.

1912-15, 1949-67: Maximum discharge, 3,190 cfs Dec. 23, 1964 (gage height, 7.32 ft), from rating curve extended above 260 cfs on basis of slope-area measurement of peak flow; minimum, 0.90 cfs Aug. 16, 1960.

Remarks.--Records good except those for periods of ice effect in January, which are poor. No regulation. Diversions for irrigation of 1,200 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	3.4	34	9.9	50	35	35	45	220	18	6.2	4.2
2	2.4	3.2	21	9.6	45	30	37	60	175	16	5.8	4.2
3	2.4	3.2	18	11	40	28	41	80	153	15	5.5	4.2
4	2.4	3.2	14	9.9	40	25	42	100	129	14	5.2	4.2
5	2.4	3.2	13	9.9	40	20	44	136	122	14	5.2	4.4
6	2.4	5.0	12	9.0	35	25	42	178	159	13	5.0	4.4
7	2.4	4.6	12	8.0	30	30	54	246	125	13	5.0	4.2
8	2.4	3.8	14	7.0	25	32	57	328	108	13	5.0	4.2
9	2.4	3.0	12	6.5	25	30	62	479	98	12	5.0	4.2
10	2.4	4.2	12	7.0	25	21	58	400	93	12	5.0	4.2
11	2.7	5.0	14	7.5	25	24	54	292	84	11	5.0	4.2
12	2.7	6.5	18	8.0	25	27	53	234	78	10	4.8	4.4
13	2.7	10	45	9.0	25	24	65	220	70	10	4.8	4.0
14	2.7	7.0	50	10	20	20	60	254	64	9.9	4.6	4.0
15	2.7	6.0	50	11	20	25	55	332	54	9.0	4.6	4.0
16	2.7	11	42	12	19	110	50	432	51	9.6	4.6	4.0
17	2.7	11	28	12	16	119	55	515	47	11	4.6	4.0
18	2.7	9.0	24	11	17	116	60	530	44	10	4.6	4.2
19	2.7	8.1	22	10	20	81	55	518	42	9.9	4.6	4.4
20	2.7	30	20	9.0	20	63	50	482	40	9.9	4.6	4.6
21	3.0	15	18	8.5	20	76	45	473	37	9.6	4.4	4.6
22	3.2	9.3	15	8.0	23	85	50	482	35	9.3	4.4	4.4
23	3.6	10	14	7.0	25	82	60	491	33	8.7	4.4	4.4
24	3.6	12	12	6.0	30	65	50	438	32	8.1	4.4	4.4
25	3.8	7.5	11	7.0	35	57	55	352	28	6.0	4.4	4.4
26	3.8	6.0	10	10	30	52	60	294	25	5.8	4.4	4.2
27	3.8	6.2	11	15	24	54	50	258	23	6.0	4.4	4.2
28	3.8	7.2	10	30	30	56	45	232	22	6.2	4.4	4.2
29	3.6	46	10	52		45	40	228	20	6.5	4.4	4.2
30	3.4	40	9.9	80	- - - - -	42	35	183	19	6.5	4.4	4.2
31	3.4	- - - - -	9.6	65	- - - - -	39	- - - - -	172	- - - - -	6.5	4.4	- - - - -
Total	90.0	299.6	605.5	475.8	779	1,538	1,519	9,464	2,230	319.5	148.1	127.4
Mean	2.90	9.99	19.5	15.3	27.8	49.6	50.6	305	74.3	10.3	4.78	4.25
Max	3.8	46	50	80	50	119	65	530	220	18	6.2	4.6
Min	2.4	3.0	9.6	6.0	16	20	35	45	19	5.8	4.4	4.0
Ac-ft	179	594	1,200	944	1,550	3,050	3,010	18,770	4,420	634	294	253

Cal yr 1966: Total 8,524.5 Mean 23.4 Max 268 Min 2.1 Ac-ft 16,910
Wtr yr 1967: Total 17,595.9 Mean 48.2 Max 530 Min 2.4 Ac-ft 34,900

Peak discharge (base, 290 cfs).--May 9 (2100 hrs) 512 cfs (3.54 ft); May 19 (0200 hrs) 610 cfs (3.83 ft).

10-3710. Drake Creek near Adel, Oreg.

Location.--Lat 42°12', long 120°00', near center of sec.9, T.39 S., R.23 E., on right bank 800 ft downstream from highway bridge and Parsnip Creek, 1 mile upstream from mouth, and 6.5 miles west of Adel.

Drainage area.--67 sq mi, approximately.

Records available.--March to May 1915, December 1922 to May 1923, December 1949 to December 1964, September 1965 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 5,075.94 ft above mean sea level (State Highway Department bench mark). Mar. 18 to May 10, 1915, and Dec. 21, 1922, to May 9, 1923, staff gage at site 800 ft upstream at different datums. Dec. 16, 1949, to June 21, 1951, water-stage recorder at site 1,300 ft upstream at different datum. June 22, 1951, to Dec. 23, 1964, at site 20 ft upstream at datum 0.48 ft higher.

Average discharge.--16 years (1950-64, 1965-67), 13.3 cfs (9,630 acre-ft per year).

Extremes.--Maximum discharge during year, 668 cfs Mar. 16 (gage height, 3.38 ft); minimum, 1.4 cfs Jan. 22.

1915, 1922-23, 1949-67: Maximum discharge, 6,210 cfs Dec. 23, 1964 (gage height, 8.9 ft, present datum), result of slope-area measurement; minimum, 0.40 cfs Jan. 11, 1963, result of freezeup.

Remarks.--Records good except those for October and November, which are poor. Some regulation by two reservoirs above station with combined capacity of 436 acre-ft. Diversions for irrigation of about 620 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	4.5	12	4.5	32	36	7.1	14	10	6.5	5.3	5.9
2	4.1	4.5	10	4.5	18	24	6.5	16	8.9	6.5	5.3	5.9
3	4.1	4.5	8.0	4.4	14	11	8.3	11	7.7	6.5	5.3	5.9
4	4.0	4.5	7.0	4.4	11	8.9	9.5	17	7.1	6.5	5.3	5.9
5	4.0	4.5	6.0	4.5	11	8.3	11	42	7.1	7.7	5.3	5.9
6	4.0	5.0	5.2	4.5	11	5.9	12	60	8.9	8.9	5.3	5.9
7	4.0	5.5	5.2	4.5	9.4	17	19	112	7.7	5.9	5.3	5.9
8	4.0	6.0	6.2	4.5	9.4	19	32	158	7.1	5.3	5.3	5.3
9	4.0	5.0	11	4.5	6.8	23	24	204	7.7	5.3	5.3	5.3
10	4.0	4.5	5.2	4.4	12	12	19	100	7.1	5.3	5.9	5.3
11	4.5	4.5	4.8	4.4	18	8.3	14	62	6.5	5.3	5.9	5.9
12	4.5	4.5	6.8	4.4	34	6.5	12	46	6.5	5.3	5.9	5.9
13	4.5	4.5	11	4.8	31	5.3	19	24	6.5	5.3	5.9	5.3
14	4.5	4.5	17	4.8	12	3.5	19	34	6.5	5.3	5.9	5.3
15	4.5	4.5	11	4.8	10	5.9	19	50	6.5	5.3	5.9	5.3
16	4.5	5.0	8.1	4.8	7.0	211	15	48	6.5	5.3	5.9	5.3
17	4.5	6.0	5.5	4.5	5.2	125	18	38	6.5	5.3	5.9	5.3
18	4.5	5.0	5.2	4.5	6.2	80	32	29	6.5	5.3	5.9	5.9
19	4.5	4.5	5.2	4.5	6.2	50	35	19	6.5	4.7	5.9	5.9
20	4.5	8.0	5.2	4.4	6.2	31	23	13	7.1	4.7	5.9	5.9
21	4.5	6.0	5.0	4.5	6.2	38	16	10	10	4.7	5.9	5.9
22	4.8	5.0	4.5	4.5	14	48	16	7.7	7.7	4.7	5.9	5.9
23	5.0	4.5	4.5	5.0	41	34	30	7.1	7.1	5.3	5.9	5.9
24	4.8	5.5	5.0	5.0	40	23	17	5.9	6.5	5.3	5.9	5.9
25	4.5	6.0	5.2	5.5	21	20	13	5.3	6.5	5.3	5.9	5.9
26	4.5	5.0	5.0	6.0	9.5	15	21	5.3	6.5	5.3	5.9	5.9
27	4.4	4.5	5.2	6.0	19	12	16	4.7	6.5	5.3	6.5	6.5
28	4.5	6.0	5.5	6.8	44	14	11	5.3	6.5	5.3	5.9	6.5
29	4.5	10	4.4	122		10	8.9	5.3	6.5	5.3	5.9	6.5
30	4.5	15	4.5	95	- - - - -	8.3	8.3	5.3	6.5	5.3	5.9	6.5
31	4.5	- - - - -	4.5	52	- - - - -	7.7	- - - - -	5.9	- - - - -	5.3	5.9	- - - - -
Total	135.8	167.0	208.9	402.9	465.1	921.6	511.6	1164.8	215.2	173.3	178.1	174.6
Mean	4.38	5.57	6.74	13.0	16.6	29.7	17.1	37.6	7.17	5.59	5.75	5.82
Max	5.0	15	17	122	44	211	35	204	10	8.9	6.5	6.5
Min	4.0	4.5	4.4	4.4	5.2	3.5	6.5	4.7	6.5	4.7	5.3	5.3
Ac-ft	269	331	414	799	923	1,830	1,010	2,310	427	344	353	346

Cal yr 1966: Total 2,844.3 Mean 7.79 Max 55.0 Min 4.0 Ac-ft 5,640
Wtr yr 1967: Total 4,718.9 Mean 12.9 Max 211 Min 3.5 Ac-ft 9,360

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	1500	2.90	420				
3-16	1830	3.38	668				
5- 8	2330	2.68	302				

Note.--No gage-height record Oct. 4 to Dec. 5.

10-3715. Deep Creek above Adel, Oreg.

Location.--Lat 42°11', long 120°00', in W½ sec.15, T.39 S., R.23 E., on left bank 700 ft downstream from Drake Creek and 5 miles west of Adel.

Drainage area.--249 sq mi.

Records available.--September 1922 to September 1923, October 1929 to September 1967. Monthly discharge only October 1929 to September 1932, published in WSP 1314.

Gage.--Water-stage recorder. Datum of gage is 4,982 ft above mean sea level (from river-profile map). Sept. 8 to Dec. 20, 1922, staff gage and Dec. 21, 1922 to Dec. 23, 1964, water-stage recorder at site 700 ft downstream at different datums. Jan. 20 to Sept. 30, 1965, staff gage at site 2,000 ft downstream at different datum.

Average discharge.--39 years, 122 cfs (88,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,540 cfs May 23 (gage height, 4.06 ft); minimum, 7.6 cfs Mar. 4.

1922-23, 1929-67: Maximum discharge, 9,420 cfs Dec. 23, 1964 (gage height, 10.64 ft, from floodmark), from rating curve extended above 1,100 cfs on basis of slope-area measurements at 7.3 ft and of peak flow; minimum, 1.7 cfs July 20, 27-29, 1934.

Remarks.--Records good. No regulation. Diversions for irrigation of 5,500 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	16	91	41	160	113	89	93	634	104	15	8.9
2	15	16	74	40	120	91	89	102	530	93	14	8.0
3	14	16	65	36	106	74	111	120	491	87	13	8.0
4	14	16	51	33	102	62	115	179	455	83	13	8.9
5	14	18	41	35	91	60	115	279	451	74	14	11
6	14	21	42	35	95	70	120	375	556	70	14	12
7	14	24	38	34	81	89	166	568	530	63	13	12
8	14	20	44	33	77	106	191	835	530	60	13	11
9	14	16	45	32	65	122	160	1,320	491	57	13	9.8
10	14	22	45	28	72	102	142	1,090	468	51	12	8.9
11	14	25	44	28	81	79	130	765	447	45	12	9.8
12	14	30	56	28	99	75	122	622	415	38	12	12
13	14	42	120	28	102	77	142	525	379	32	12	12
14	15	37	138	27	72	70	145	580	351	31	12	13
15	15	32	99	27	85	68	151	772	335	24	11	13
16	15	50	87	25	72	541	128	1,000	331	23	11	12
17	15	46	68	24	60	482	135	1,190	323	34	9.8	12
18	15	37	60	25	65	375	154	1,360	319	35	9.8	14
19	16	33	52	26	68	255	148	1,420	319	30	9.8	15
20	16	113	54	26	60	183	125	1,360	311	25	9.8	16
21	16	75	50	22	60	199	113	1,310	295	24	9.8	17
22	17	38	50	20	70	243	118	1,380	263	20	8.9	16
23	21	32	48	20	102	215	142	1,410	231	17	8.9	15
24	20	51	45	21	115	163	128	1,300	195	16	8.9	15
25	18	48	50	24	95	145	128	1,040	172	14	8.9	16
26	17	33	54	26	74	135	145	877	166	12	8.9	16
27	16	30	51	30	81	135	138	828	163	12	11	16
28	16	37	45	46	115	138	128	786	148	13	11	16
29	17	145	40	276	- - - - -	111	97	856	130	16	11	16
30	17	132	42	287	- - - - -	111	93	676	118	16	9.8	16
31	17	- - - - -	40	195	- - - - -	108	- - - - -	580	- - - - -	15	8.9	- - - - -
Total	483	1,251	1,829	1,578	2,445	4,797	3,908	25,598	10,547	1,234	349.2	386.3
Mean	15.6	41.7	59.0	50.9	87.3	155	130	826	352	39.8	11.3	12.9
Max	21	145	138	287	160	541	191	1,420	634	104	15	17
Min	14	16	38	20	60	60	89	93	118	12	8.9	8.0
Ac-ft	958	2,480	3,630	3,130	4,850	9,510	7,750	50,770	20,920	2,450	692	766

Cal yr 1966: Total 28,389.6 Mean 77.8 Max 642 Min 9.0 Ac-ft 56,310
Wtr yr 1967: Total 54,405.5 Mean 149 Max 1,420 Min 8.0 Ac-ft 107,900

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	1600	2.77	702				
3-16	1900	3.64	1,380				
5- 9	2200	3.82	1,450				
5-23	0600	4.06	1,540				

10-3785. Honey Creek near Plush, Oreg.

Location.--Lat 42°25', long 119°55', in NW¼ sec.29, T.36 S., R.24 E., on right bank 700 ft upstream from mouth of canyon, 1 mile northwest of Plush, and 4 miles downstream from Twelvemile Creek.

Drainage area.--170 sq mi, approximately.

Records available.--May 1909 to September 1914 (prior to January 1910, gage heights only), March to May 1915, March to September 1921, March to June 1922, May 1930 to September 1967. Monthly discharge only May 1930 to September 1949, published in WSP 1314.

Gage.--Water-stage recorder. Datum of gage is 4,554.30 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Feb. 24, 1910, staff gage at site half a mile downstream at different datum. Feb. 24, 1910, to Jan. 12, 1912, staff gage; Jan. 13, 1912, to May 16, 1915, water-stage recorder; Mar. 15 to Apr. 6, 1921, staff gage; Apr. 7 to Sept. 30, 1921, water-stage recorder; and Mar. 19 to June 30, 1922, staff gage; all at site half a mile upstream from present site at different datums. May 1, 1930, to Aug. 30, 1959, water-stage recorder at site 700 ft downstream at datum 15.30 ft lower. Sept. 1, 1959, to Aug. 21, 1963, water-stage recorder at datum 17.83 ft lower, Aug. 22, 1963, to Dec. 23, 1964, water-stage recorder at datum 5.37 ft lower, and Dec. 24, 1964, to Sept. 30, 1965, staff gage at datum 3.87 ft lower, all at site 100 ft downstream.

Average discharge.--41 years (1910-14, 1930-67), 285 cfs (20,630 acre-ft per year).

Extremes.--Maximum discharge during year, 903 cfs May 10 (gage height, 5.84 ft); minimum, 0.70 cfs Aug. 27, 28.

1910-15, 1921-22, 1930-67: Maximum discharge, 11,000 cfs Dec. 23, 1964 (gage height, 13.4 ft, from floodmark), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 10.46 and of peak flow; no flow at times.

Remarks.--Records good. Slight regulation by five small reservoirs (combined capacity, 870 acre-ft). Diversions for irrigation of about 2,300 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.90	2.5	22	8.0	32	16	26	50	260	24	2.5	1.2
2	1.0	2.6	18	7.8	27	16	24	52	258	21	2.2	1.2
3	1.1	2.6	17	8.0	24	13	26	47	220	21	1.9	1.2
4	1.2	2.6	14	7.5	22	11	28	49	180	21	1.6	1.2
5	1.2	2.5	16	7.0	21	12	29	64	160	23	1.4	1.1
6	1.2	3.0	11	7.0	16	14	30	72	194	22	1.3	1.4
7	1.2	3.6	9.6	6.6	18	15	32	98	160	23	1.5	1.4
8	1.2	3.6	11	7.2	16	14	54	184	140	21	1.5	1.1
9	1.2	3.3	12	8.0	19	16	47	546	130	19	1.4	.80
10	1.2	3.6	12	8.0	18	16	40	654	124	17	1.3	.80
11	1.1	4.6	12	8.0	16	15	35	360	110	15	1.2	.80
12	1.3	4.8	17	8.0	18	14	30	240	102	12	1.1	1.0
13	1.4	5.0	40	10	20	14	32	190	98	8.8	1.0	1.0
14	1.4	5.8	47	11	14	14	36	188	88	7.4	.90	1.0
15	1.4	5.8	27	10	21	13	42	260	74	7.6	.80	1.0
16	1.7	7.0	20	9.5	18	109	40	420	69	7.6	.80	.90
17	2.0	8.0	19	8.5	19	134	49	529	65	12	.90	.80
18	2.0	6.8	18	8.0	21	104	52	578	67	12	.90	.80
19	2.1	6.8	15	7.5	16	69	43	515	66	10	.80	.80
20	2.1	14	15	6.6	12	49	36	450	65	9.2	.80	1.2
21	2.1	20	13	6.6	15	53	32	441	60	8.0	.80	1.2
22	2.1	12	12	6.4	14	54	33	450	55	7.2	.80	1.0
23	2.3	10	11	6.6	16	51	34	435	65	6.2	.80	.80
24	2.5	7.8	10	6.8	18	41	31	393	52	5.2	.70	.80
25	2.5	6.2	9.0	7.0	16	36	32	318	45	4.6	.70	.80
26	2.4	7.8	9.6	7.2	14	33	35	265	41	4.0	.80	.80
27	2.4	7.4	10	7.4	14	31	33	244	36	3.6	.80	.90
28	2.4	8.8	10	15	16	32	32	230	33	3.3	.70	.90
29	2.4	18	9.5	200		29	35	240	31	3.6	1.1	.90
30	2.4	31	9.0	60	- - - - -	29	37	200	27	3.6	1.2	.90
31	2.5	- - - - -	8.5	45	- - - - -	31	- - - - -	200	- - - - -	3.0	1.2	- - - - -
Total	53.90	227.5	484.2	530.2	511	1,098	1,065	8,962	3,075	365.9	35.40	29.70
Mean	1.74	7.58	15.6	17.1	18.2	35.4	35.5	289	102	11.8	1.14	0.99
Max	2.5	31	47	200	32	134	54	654	260	24	2.5	1.4
Min	0.90	2.5	8.5	6.4	12	11	24	47	27	3.0	0.70	0.80
Ac-ft	107	451	960	1,050	1,010	2,180	2,110	17,780	6,100	726	70	59

Cal yr 1966: Total 6,235.90 Mean 17.1 Max 101 Min 0.20 Ac-ft 12,370
Wtr yr 1967: Total 16,437.80 Mean 45.0 Max 654 Min 0.70 Ac-ft 32,600

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	1800	4.53	399	5-10	0100	5.84	903
3-16	2100	4.57	411	5-18	0100	5.50	750

10-3820. Abert Lake near Valley Falls, Oreg.

Location.--Lat 42°36', long 120°12', in sec.24, T.34 S., R.21 E., 10 miles northeast of Valley Falls, on east shore of Lake.

Drainage area.--860 sq mi, approximately.

Records available.--October 1915 to September 1918 (fragmentary), October 1961 to September 1967. Fragmentary records for period 1919 to 1961 available in files of Portland district office.

Gage.--Staff gage read occasionally. Datum of gage is 4,247.78 ft above mean sea level, datum of 1929. Gage readings have been converted to elevations above mean sea level. Prior to September 1961, staff gage and various reference marks used, and September 1961 to July 3, 1963, water-stage recorder.

Extremes.--Maximum elevation observed during year, 4,257.1 ft July 11; minimum elevation observed, 4,255.92 ft Sept. 14.

1915-67: Maximum observed elevation, 4,260.5 ft June 22, 1958. Prior to 1905 a well defined beach line was formed at elevation 4,269.7 ft. Lake was dry in 1924; practically dry at times in 1926, 1930, 1931 and 1934.

Remarks.--Records fair. Many diversions for irrigation on streams tributary to the lake. The lake has no outlet and the water is highly mineralized.

Elevation, water year October 1966 to September 1967

Date	Elevation (feet)
May 21	4,256.34
May 26	4,256.5
July 11	4,257.1
Aug. 14	4,256.6
Sept. 14	4,255.92

10-3840. Chewaucan River near Paisley, Oreg.

Location (revised).--Lat 42°41'05", long 120°34'08", in SW¼NW¼ sec.26, T.33 S., R.18 E., on left bank 1.2 miles downstream from Mill Creek and 1.4 miles southwest of Paisley.

Drainage area.--275 sq mi.

Records available.--April 1912 to September 1921, May 1924 to September 1967. Published as "above Conn ditch, near Paisley" April to September 1912 and May 1924 to September 1955, as "above Mill Creek, near Paisley" October 1912 to December 1913, and as "at Chewaucan Land & Cattle Co.'s gage, near Paisley" January to September 1914.

Gage.--Water-stage recorder. Datum of gage is 4,430 ft above mean sea level (river-profile survey). Prior to July 14, 1912, reference point at site 1.2 miles upstream at different datum. Nov. 6, 1912, to Jan. 19, 1914, staff gage and Jan. 20, 1914, to Sept. 30, 1921, water-stage recorder at various sites within 0.5 mile upstream from Mill Creek at various datums. May 1, 1924, to Jan. 26, 1956, water-stage recorder at sites about 1.5 miles upstream at different datums. Jan. 27 to Oct. 6, 1956, staff gage at sites about 1.0 mile downstream at different datums.

Average discharge.--52 years, 139 cfs (100,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,730 cfs May 23 (gage height, 4.38 ft); minimum, 18 cfs Sept. 1, 3.

1912-21, 1924-67: Maximum discharge, 6,490 cfs Dec. 22, 1964 (gage height, 8.35 ft), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow for part of each day Dec. 7, 1927, Dec. 12, 1932, result of freezeup.

Remarks.--Records good except those for periods of ice effect in January, which are poor. No regulation. Diversions for irrigation of about 2,500 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	36	92	60	174	112	106	98	1,080	212	38	19
2	31	36	96	55	130	90	119	98	902	186	36	19
3	31	36	90	50	114	85	124	112	783	174	34	18
4	31	35	82	45	106	69	124	150	741	165	32	19
5	33	37	77	35	98	80	130	186	741	153	31	21
6	33	42	80	33	82	90	117	220	755	141	31	23
7	33	45	78	40	92	100	138	330	734	133	28	22
8	33	40	57	45	84	102	159	485	734	126	28	21
9	33	33	60	50	94	110	162	881	720	119	28	20
10	33	42	65	54	84	102	153	916	702	108	26	20
11	33	46	66	50	85	82	141	708	690	102	26	26
12	35	50	92	47	92	98	135	552	660	96	24	28
13	35	60	198	47	96	102	162	470	624	87	24	28
14	35	56	180	45	72	90	150	495	576	82	23	28
15	35	55	110	45	87	77	150	624	570	71	23	32
16	35	80	85	42	89	314	133	839	552	68	22	31
17	35	68	80	40	82	450	144	1,040	540	87	22	30
18	35	54	80	40	87	322	144	1,180	540	74	22	32
19	35	50	66	40	75	212	121	1,240	520	66	22	32
20	35	96	74	40	59	180	121	1,290	515	63	24	31
21	35	89	63	37	72	189	114	1,360	552	60	23	29
22	38	56	54	39	89	216	117	1,490	485	57	21	29
23	44	62	60	35	90	230	121	1,550	465	54	21	29
24	41	43	70	40	90	183	117	1,520	390	50	20	29
25	38	77	114	45	80	165	112	1,380	350	47	21	29
26	37	84	128	50	70	144	112	1,240	330	44	21	29
27	36	57	130	60	80	144	112	1,180	306	43	24	29
28	36	62	135	108	100	156	114	1,160	282	42	23	29
29	36	87	108	270	- - - - -	135	100	1,120	254	45	23	30
30	36	102	66	282	- - - - -	124	102	1,040	230	43	22	30
31	36	- - - - -	64	216	- - - - -	126	- - - - -	965	- - - - -	39	20	- - - - -
Total	1,083	1,716	2,800	2,085	2,553	4,679	3,854	25,919	17,323	2,837	783	792
Mean	34.9	57.2	90.3	67.3	91.2	151	128	836	577	91.5	25.3	26.4
Max	44	102	198	282	174	450	162	1,550	1,080	212	38	32
Min	31	33	54	33	59	69	100	98	230	39	20	18
Ac-ft	2,150	3,400	5,550	4,140	5,060	9,280	7,640	51,410	34,360	5,630	1,550	1,570

Cal yr 1966: Total 36,558 Mean 100 Max 416 Min 21 Ac-ft 72,510
Wtr yr 1967: Total 66,424 Mean 182 Max 1,550 Min 18 Ac-ft 131,800

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-16	2300	3.32	874				
5-10	0330	3.53	1,020				
5-23	0600	4.38	1,730				

10-3880. Ana River near Summer Lake, Oreg.

Location.--Lat 43°00', long 120°45', in SE¼ sec.6, T.30 S., R.17 E., on left bank 300 ft downstream from diversion dam and 2 miles northeast of town of Summer Lake.

Records available.--October 1929 to September 1939 (river only); June to September 1928, April 1931 to July 1938, and April 1940 to September 1942 (irrigation season records for Summer Lake Canal only); June 1951 to September 1967. Prior to June 1951 monthly discharge only, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 4,160 ft (from plans of Ana River diversion dam). Oct. 1, 1929, to Sept. 30, 1939, at site 80 ft downstream at different datum.

Average discharge.--19 years (1930-32, 1935-36, 1951-67), 92.8 cfs (67,180 acre-ft per year).

Extremes.--Maximum discharge during year, 144 cfs Jan. 11 (gage height, 2.58 ft); no flow in canal; minimum daily, 37 cfs May 2.

1929-39, 1951-67: Maximum discharge, 188 cfs Dec. 22, 1964 (gage height, 2.81 ft), no flow in canal; minimum daily, 6 cfs May 16, 1952.

Remarks.--Records good. All records presented herein include flow in Summer Lake Canal which diverts 300 ft above station for irrigation of lands along west side of Summer Lake. Flow regulated by gates at diversion dam. Source of stream is Ana River Springs, three-quarters of a mile above station, which are flooded over by pondage behind diversion dam.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	112	103	90	100	99	99	73	88	83	87	89
2	90	112	103	90	102	99	99	37	82	83	86	88
3	90	111	103	90	102	99	99	41	80	83	82	85
4	91	111	103	90	102	99	99	43	81	86	80	80
5	86	111	103	90	100	99	99	46	82	86	82	92
6	85	111	101	87	99	99	99	48	82	89	82	96
7	85	109	101	86	97	99	97	56	82	94	90	90
8	87	109	101	84	97	99	97	88	83	80	93	88
9	89	108	101	84	96	99	97	93	84	89	90	90
10	99	108	101	84	96	99	97	93	84	104	86	91
11	108	108	101	100	96	100	97	93	84	95	82	91
12	106	108	101	119	96	100	97	58	85	84	82	91
13	105	111	101	103	96	100	97	60	85	84	82	87
14	105	111	103	110	96	100	97	77	85	85	84	87
15	104	109	107	104	97	100	97	77	88	85	87	90
16	102	106	103	103	97	100	97	79	89	86	89	92
17	102	106	103	100	97	99	97	81	88	86	89	95
18	102	106	101	100	99	99	97	79	87	85	89	90
19	102	106	100	99	99	100	97	83	87	82	89	88
20	104	106	96	99	99	100	97	85	87	83	87	89
21	105	104	96	97	99	100	97	86	87	88	88	91
22	106	105	96	99	99	100	96	91	86	88	89	90
23	106	104	93	97	99	100	96	91	86	90	87	93
24	106	104	93	97	99	99	96	91	86	86	87	94
25	109	104	92	97	99	99	96	88	86	80	87	94
26	109	104	92	99	99	99	96	86	85	81	85	93
27	109	104	91	99	99	99	96	86	83	81	84	93
28	109	104	91	99	99	99	96	86	81	83	85	94
29	109	103	90	99	- - - - -	99	96	85	81	85	88	94
30	111	103	90	99	- - - - -	100	96	84	82	87	88	92
31	112	- - - - -	90	100	- - - - -	99	- - - - -	89	- - - - -	87	88	- - - - -
Total	3,123	3,218	3,050	2,994	2,755	3,081	2,913	2,353	2,536	2,668	2,674	2,717
Mean	101	107	98.4	96.6	98.4	99.4	97.1	75.9	84.5	86.1	86.3	90.6
Max	112	112	107	119	102	100	99	93	89	104	93	96
Min	85	103	90	84	96	99	96	37	80	80	80	80
Ac-ft	6,190	6,380	6,050	5,940	5,460	6,110	5,780	4,670	5,030	5,290	5,300	5,390

Cal yr 1966: Total 35,654 Mean 97.7 Max 118 Min 57 Ac-ft 70,720
Wtr yr 1967: Total 34,082 Mean 93.4 Max 119 Min 37 Ac-ft 67,600

10-3900. Silver Creek near Silver Lake, Oreg.

Location.--Lat 43°06'40", long 121°04'05", in SW¼ sec.28, T.28 S., R.14 E., on right bank 1.5 miles downstream from diversion dam of Silver Lake Irrigation District, 1.5 miles southwest of town of Silver Lake, and 3 miles upstream from Bridge Creek.

Drainage area.--180 sq mi, approximately.

Records available.--January 1905 to March 1907, January 1909 to September 1927, February to December 1928, February 1929 to September 1967.

Gage.--Water-stage recorder. Concrete control since Sept. 15, 1932. Datum of gage is 4,361.22 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to May 24, 1932, staff gage or water-stage recorder at practically same location at datum 1.00 ft higher, or staff gage at diversion dam outlet 1.5 miles upstream at different datum.

Average discharge.--55 years (1905-6, 1909-27, 1929-41, 1943-67), 28.5 cfs (20,630 acre-ft per year), including diversion by Silver Lake Irrigation District Canal.

Extremes.--Maximum discharge during year, 540 cfs May 19; minimum daily, 2.0 cfs Oct. 18, 19.

1905-7, 1909-67: Maximum discharge, 1,800 cfs Mar. 20, 1907 (gage height, 10.08 ft, present datum), from rating curve extended above 700 cfs; maximum gage height, 10.3 ft Dec. 22, 1964; no flow at times in 1931-32, 1934, 1937.

Remarks.--Records good. Flow regulated by reservoir (capacity, 800 acre-ft) above diversion dam 1.5 miles above station and by Thompson Valley Reservoir (capacity, 17,400 acre-ft) 11 miles above station. Records given herein include flow in Silver Lake Irrigation District Canal which has diverted 1.5 miles above station 1923-43, 1966-67.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	3.7	2.6	3.5	18	8.8	25	38	188	35	39	34
2	5.5	3.7	2.6	3.5	18	11	25	40	196	35	39	30
3	5.2	3.7	3.4	3.5	17	11	24	42	167	35	38	31
4	4.6	3.2	3.4	3.4	16	8.0	25	48	143	35	38	31
5	4.1	2.6	3.5	4.0	14	8.4	26	54	125	34	34	31
6	3.8	2.6	3.5	4.0	12	8.8	27	55	115	36	31	31
7	3.5	2.6	3.5	3.7	11	10	27	54	102	37	32	30
8	3.4	2.6	3.7	3.7	10	12	29	66	92	38	28	30
9	3.7	2.6	3.7	3.7	9.2	14	30	163	82	38	28	30
10	3.5	2.6	3.7	3.7	8.4	16	35	349	77	40	27	30
11	3.3	2.6	3.7	3.7	8.0	16	36	364	75	44	25	30
12	3.2	2.6	4.1	3.7	8.0	13	32	317	73	49	22	29
13	2.8	2.6	10	3.7	8.0	12	32	268	75	53	27	24
14	2.7	2.4	16	3.7	8.0	11	27	245	73	57	29	19
15	2.6	2.4	16	3.7	7.0	10	27	265	66	58	28	18
16	2.5	2.6	14	3.7	7.0	12	27	325	64	58	30	17
17	2.5	2.4	11	3.7	7.0	25	27	408	63	58	32	17
18	2.0	2.4	9.6	3.7	6.6	50	27	445	64	51	33	16
19	2.0	2.4	7.6	3.4	6.6	40	31	513	60	48	36	12
20	2.1	2.6	7.0	3.4	6.5	35	32	495	59	47	38	8
21	2.4	2.6	5.0	3.4	6.2	31	32	483	59	47	39	11
22	2.4	2.6	4.5	3.5	6.2	31	33	481	59	47	40	14
23	2.3	2.4	4.0	4.0	6.2	36	30	450	51	47	42	14
24	2.3	2.6	4.0	5.0	6.2	42	34	389	43	46	40	14
25	2.3	2.8	4.0	5.6	6.6	36	32	320	43	46	40	13
26	2.4	2.4	4.1	6.2	6.6	37	31	273	41	46	41	13
27	2.6	2.6	4.0	5.9	6.2	32	33	231	38	44	42	13
28	3.7	2.6	4.0	6.2	7.0	32	33	210	37	41	41	14
29	3.7	2.6	3.7	9.2		30	33	194	37	41	40	16
30	3.7	2.6	3.7	18	- - - - -	29	35	166	36	40	39	16
31	3.7	- - - - -	3.5	18	- - - - -	27	- - - - -	145	- - - - -	40	39	- - - - -
Total	99.9	80.7	177.1	158.1	257.5	695.0	897	7,896	2,403	1,371	1,077	636
Mean	3.22	2.69	5.71	5.10	9.20	22.4	29.9	255	80.1	44.2	34.7	21.2
Max	5.5	3.7	16	18	18	50	36	513	196	58	42	34
Min	2.0	2.4	2.6	3.4	6.2	8.0	24	38	36	34	22	8
Ac-ft	198	160	351	314	511	1,380	1,780	15,660	4,770	2,720	2,140	1,260

Cal yr 1966: Total 8,949.8 Mean 24.5 Max 155 Min 2.0 Ac-ft 17,750
Wtr yr 1967: Total 15,748.3 Mean 43.1 Max 513 Min 2.0 Ac-ft 31,240

10-3935. Silvies River near Burns, Oreg.

Location.--Lat 43°43', long 119°11', in NW¼ sec.31, T.21 S., R.30 E., on left bank 5 miles downstream from Emigrant Creek and 11 miles northwest of Burns.

Drainage area.--934 sq mi.

Records available.--May 1903 to July 1906, December 1908 to December 1912, March 1913 to September 1917 (irrigation seasons only), March 1918 to October 1920, March 1921 to July 1922 (irrigation seasons only), October 1922 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 4,195 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (river-profile survey). Prior to Dec. 1, 1911, and June 24, 1917, to Apr. 6, 1922, staff gage at site 3 miles downstream at different datums. Dec. 1, 1911, to June 23, 1917, water-stage recorder at site 1 3/4 miles downstream at different datum. Apr. 7, 1922 to Oct. 1, 1941, water-stage recorder at present site and datum. Oct. 2, 1941, to Oct. 3, 1951, water-stage recorder at site 400 ft downstream at same datum.

Average discharge.--54 years (1903-5, 1909-12, 1917-21, 1922-67), 163 cfs (118,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,360 cfs May 11 (gage height, 10.31 ft); minimum, 7.0 cfs Aug. 26, Sept. 27-30.

1903-6, 1908-67: Maximum discharge, 4,960 cfs Apr. 6, 1952 (gage height, 15.2 ft); no flow July 19 to Sept. 22, 1934.

Remarks.--Records good. No regulation. Diversions for irrigation above station during periods of high flow only.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	17	61	50	323	165	336	362	419	116	23	8.8
2	8.2	16	76	55	299	176	335	342	436	142	22	8.2
3	8.2	16	76	60	264	147	362	362	406	114	20	7.6
4	8.2	16	76	60	227	138	384	407	360	98	19	7.6
5	8.2	16	92	60	207	137	406	474	335	88	19	7.6
6	8.2	21	88	60	185	143	400	578	316	81	18	8.2
7	8.2	22	79	60	173	157	420	728	300	78	17	8.2
8	8.2	22	73	55	161	158	455	901	281	74	16	8.2
9	8.2	22	79	55	157	173	506	1,060	264	67	16	8.2
10	8.2	25	74	55	153	177	545	1,280	254	61	15	8.2
11	8.2	28	80	55	141	177	586	1,330	230	59	14	8.8
12	8.6	34	79	60	140	155	586	1,220	213	56	14	9.4
13	9.0	44	91	71	130	156	612	1,200	214	53	13	9.4
14	9.5	40	142	77	120	144	623	1,140	202	49	12	11
15	11	40	134	79	120	133	592	1,050	178	46	12	11
16	11	42	114	82	126	224	557	1,030	137	42	11	11
17	11	43	110	70	140	460	516	1,020	123	42	11	11
18	11	40	105	70	143	419	484	1,060	130	41	11	10
19	11	38	100	65	122	425	450	1,050	144	39	11	9.4
20	11	47	95	62	114	398	426	1,000	162	37	10	9.4
21	14	69	90	60	118	412	402	952	180	35	10	8.8
22	16	66	88	60	122	402	377	914	212	33	8.8	10
23	18	56	87	55	127	410	386	853	192	31	8.8	10
24	18	54	80	50	134	418	412	764	191	29	8.2	10
25	18	50	70	50	138	395	413	678	184	28	7.6	9.4
26	18	51	60	55	121	371	425	584	172	27	7.0	8.2
27	18	46	50	60	122	353	434	491	153	28	7.6	7.0
28	18	48	50	93	142	356	422	460	144	28	9.4	7.0
29	17	55	50	165		359	395	430	131	27	10	7.0
30	17	59	50	368	- - - - -	344	376	414	121	26	10	7.0
31	17	- - - - -	50	312	- - - - -	342	- - - - -	413	- - - - -	25	10	- - - - -
Total	372.3	1,143	2,549	2,589	4,469	8,424	13,623	24,547	6,784	1,700	401.4	265.6
Mean	12.0	38.1	82.2	83.5	160	272	454	792	226	54.8	12.9	8.85
Max	18	69	142	368	323	460	623	1,330	436	142	23	11
Min	8.2	16	50	50	114	133	335	342	121	25	7.0	7.0
Ac-ft	738	2,270	5,060	5,140	8,860	16,710	27,020	48,690	13,460	3,370	796	527

Cal yr 1966: Total 32,947.6 Mean 90.3 Max 887 Min 4.0 Ac-ft 65,350
Wtr yr 1967: Total 66,867.3 Mean 183 Max 1,330 Min 7.0 Ac-ft 132,600

10-3960. Donner und Blitzen River near Frenchglen, Oreg.

Location.--Lat 42°47', long 118°52', in NW¼ sec.20, T.32 S., R.32½ E., on left bank 1.5 miles upstream from upper diversions for Malheur Migratory Waterfowl Refuge, 2.0 miles downstream from Fish Creek, and 3.5 miles southeast of Frenchglen.

Drainage area.--200 sq mi, approximately.

Records available.--March 1911 to September 1913, March 1914 to September 1916, April 1917 to September 1921, August to November 1929, April to September 1930, December 1937, to September 1967. Monthly discharge only for some periods, published in WSP 1314. Published as "near Diamond" 1911-21. Records of discharge for January 1909 to September 1910 (published in WSP 270, 290, and 370, for a nonequivalent site as "near Diamond") have been found to be unreliable and should not be used.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 4,254 ft above mean sea level (levels by Fish and Wildlife Service). Prior to December 1937, staff gage at several sites within 2 miles downstream at different datums. Dec. 6, 1937, to Feb. 14, 1938, staff gage, and Feb. 15, 1938, to July 28, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--37 years (1911-13, 1914-16, 1917-21, 1938-67), 119 cfs (86,150 acre-ft per year).

Extremes.--Maximum discharge during year, 1,200 cfs Jan. 29 (gage height, 4.62 ft); minimum, 4.7 cfs Jan. 17, result of freezeup.

1911-21, 1929-30, 1937-67: Maximum discharge, 2,750 cfs May 19, 1953 (gage height, 6.29 ft); minimum, 4.7 cfs Jan. 17, 1967; minimum daily, 11 cfs Nov. 16, 1961.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	26	53	33	65	64	59	216	440	160	52	36
2	25	26	50	32	63	59	68	169	349	160	50	36
3	26	26	83	33	56	43	80	124	318	150	49	36
4	26	26	60	33	63	38	78	100	313	140	47	37
5	26	26	60	28	68	40	70	110	345	140	46	38
6	26	31	55	27	49	39	71	141	415	130	46	43
7	26	29	47	33	48	41	76	216	410	130	45	39
8	26	28	41	23	44	42	73	358	400	120	45	38
9	26	26	50	33	44	47	72	529	420	110	44	37
10	26	34	45	33	47	45	75	455	405	110	43	37
11	26	38	43	32	46	43	80	395	380	102	43	41
12	26	35	78	30	54	39	134	340	360	100	42	43
13	26	36	131	31	74	43	100	267	340	94	42	39
14	26	35	116	35	45	40	90	263	340	88	41	39
15	27	34	55	36	42	39	91	354	320	85	38	39
16	26	38	43	35	44	111	95	460	320	94	38	38
17	26	37	39	32	41	141	107	582	300	100	39	38
18	26	33	39	29	42	112	84	696	280	90	39	38
19	26	33	38	35	40	116	76	690	280	78	40	38
20	26	33	39	31	34	90	76	660	300	73	39	37
21	26	33	33	41	40	79	76	708	360	70	39	37
22	27	33	21	34	40	90	76	822	300	67	38	36
23	29	24	38	19	46	78	93	889	280	63	37	37
24	28	21	35	33	65	70	140	840	260	60	38	37
25	27	36	34	33	61	71	98	696	240	58	37	37
26	26	41	31	33	48	68	136	606	220	56	38	37
27	26	33	29	60	60	66	186	588	200	55	39	36
28	26	63	29	259	72	70	129	630	190	53	38	36
29	26	206	41	650	------	64	144	618	180	55	38	36
30	26	83	33	151	------	66	206	507	170	63	37	41
31	26	------	34	89	------	66	------	430	------	55	36	------
TOTAL	813	1,203	1,523	2,036	1,443	2,020	2,939	14,459	9,435	2,909	1,283	1,137
MEAN	26.2	40.1	49.1	65.7	51.5	65.2	98.0	466	315	93.8	41.4	37.9
MAX	29	206	131	650	74	141	206	889	440	160	52	43
MIN	25	21	21	19	34	38	59	100	170	53	36	36
AC-FT	1,610	2,390	3,020	4,040	2,860	4,010	5,830	28,680	18,710	5,770	2,540	2,260

CAL YR 1966: TOTAL 20,174 MEAN 55.3 MAX 349 MIN 20 AC-FT 40,010
WAT YR 1967: TOTAL 41,200 MEAN 113 MAX 889 MIN 19 AC-FT 81,720

Peak discharge (base, 650 cfs).--Jan. 29 (1730 hrs) 1,200 cfs (4.62 ft); May 23 (2300 hrs) 1,060 cfs (4.42 ft).

10-3970. Bridge Creek near Frenchglen, Oreg.

Location.--Lat 42°50', long 118°51', in NW¼ sec.33, T.31 S., R.32½ E., on right bank at mouth of canyon, 3.5 miles northeast of Frenchglen.

Drainage area.--30 sq mi, approximately.

Records available.--March to August 1911, January 1912 to September 1916, April to June 1930, December 1937 to September 1967. Monthly discharge only April to June 1930, published in WSP 1314. Published as "near Diamond" 1911-16.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 4,184.93 ft above mean sea level (levels by Fish and Wildlife Service). Prior to Dec. 21, 1937, staff gage at sites within 1 mile upstream at different datums. Dec. 21, 1937, to May 17, 1938, staff gage at site 1,000 ft downstream at different datum. May 18, 1938, to Aug. 22, 1939, staff gage, and Oct. 31, 1939, to Apr. 8, 1965, graphic water-stage recorder, at present site and datum.

Average discharge.--33 years (1912-16, 1938-67), 13.6 cfs (9,850 acre-ft per year).

Extremes.--Maximum discharge during year, 119 cfs May 18 (gage height, 2.14 ft, from floodmark); minimum, 8.1 cfs Dec. 18 to Jan. 13, Jan. 17-20.

1911-16, 1930, 1937-67: Maximum discharge, 301 cfs May 19, 1953 (gage height, 2.73 ft), from rating curve extended above 65 cfs by logarithmic plotting; minimum, 4.2 cfs Feb. 25, 1962.

Remarks.--Records good. No regulation or diversion above station. Low-water flow is sustained by large springs.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	8.8	9.2	8.5	14	9.7	10	17	23	11	13	13
2	11	8.8	9.2	8.5	13	9.6	11	20	23	11	13	13
3	11	8.8	9.9	8.5	12	9.5	12	23	23	11	13	13
4	11	8.8	9.5	8.5	12	9.3	12	20	23	11	13	13
5	11	8.8	11	8.5	12	9.3	12	20	23	11	13	13
6	10	9.8	9.2	8.5	12	9.3	12	24	23	11	13	13
7	10	9.6	8.5	8.5	11	9.6	12	30	23	11	14	13
8	10	9.5	8.5	8.5	11	9.6	12	38	23	11	14	13
9	10	9.5	8.5	8.5	10	9.6	13	53	25	11	14	13
10	10	9.5	8.5	8.5	9.9	9.6	13	47	25	12	14	13
11	9.8	9.5	8.8	8.5	9.5	9.6	15	44	23	12	14	14
12	9.8	9.2	12	8.5	9.5	9.6	24	39	22	12	14	13
13	9.2	9.2	12	8.5	9.4	9.6	21	36	21	12	14	13
14	8.8	9.2	11	9.5	9.3	9.5	16	36	20	12	13	13
15	8.8	9.2	9.5	9.9	9.3	9.5	17	27	18	12	13	13
16	8.8	9.2	9.2	9.2	9.3	11	16	25	18	12	14	13
17	8.8	9.2	8.8	8.8	9.3	16	18	32	17	13	13	13
18	8.8	9.2	8.8	8.8	10	14	16	70	18	13	13	13
19	8.8	9.2	8.5	8.5	9.5	11	14	62	16	13	13	13
20	8.8	8.8	8.5	8.8	9.3	11	13	48	16	13	13	12
21	8.8	8.8	8.5	9.2	9.3	11	13	40	16	13	13	12
22	8.8	9.2	8.5	9.2	9.3	12	13	49	16	13	13	12
23	8.8	8.8	8.5	8.8	9.3	12	16	51	15	13	13	12
24	8.8	8.8	8.5	8.8	9.9	11	24	49	15	13	13	12
25	8.8	8.8	8.5	8.8	10	11	33	44	14	13	13	12
26	8.8	8.8	8.5	9.2	9.6	11	29	39	13	13	13	12
27	8.8	8.8	8.5	25	9.5	10	28	36	12	13	13	12
28	8.8	9.2	8.5	23	9.6	11	21	34	11	13	13	12
29	8.8	20	8.5	23	------	11	21	24	11	13	13	12
30	8.8	11	8.5	20	------	11	19	23	11	13	13	12
31	8.8	------	8.5	16	------	11	------	23	------	13	13	------
TOTAL	292.2	286.0	282.6	335.0	287.8	327.9	506	1,123	557	378	411	380
MEAN	9.43	9.53	9.12	10.8	10.3	10.6	16.9	36.2	18.6	12.2	13.3	12.7
MAX	11	20	12	25	14	16	33	70	25	13	14	14
MIN	8.8	8.8	8.5	8.5	9.3	9.3	10	17	11	11	13	12
AC-FT	580	567	561	664	571	650	1,000	2,230	1,100	750	815	754

CAL YR 1966: TOTAL 3,909.8 MEAN 10.7 MAX 20 MIN 8.5 AC-FT 7,750
WAT YR 1967: TOTAL 5,166.5 MEAN 14.2 MAX 70 MIN 8.5 AC-FT 10,250

Peak discharge (base, 30 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-29	1900	1.36	34	4-24	2100	1.59	54
1-27	1900	1.54	50	5-18	2100	2.14	119
4-12	1930	1.52	48	5-24	2200	1.57	52

10-4030. Silver Creek near Riley, Oreg.

Location.--Lat 43°41', long 119°39', in E½ sec.1, T.22 S., R.25 E., on right bank 0.4 mile downstream from Rough Creek, 1.4 mile upstream from Nicoll Creek, and 14 miles northwest of Riley.

Drainage area.--228 sq mi.

Records available.--June 1951 to September 1967.

Gage.--Water-stage recorder. Altitude of gage is 4,450 ft (by barometer).

Average discharge.--16 years, 43.1 cfs (31,200 acre-ft per year).

Extremes.--Maximum discharge during year, 488 cfs May 10 (gage height, 4.36 ft); minimum, 1.2 cfs Aug. 26.

1951-67: Maximum discharge, 1,810 cfs Dec. 22, 1964 (gage height, 7.49 ft); no flow Dec. 3, 1957, and Jan. 13, 1960, result of freezeup, Aug. 3, 4, 21, 22, 1961.

Remarks.--Records good except those for periods of ice effect in January, which are fair. No regulation. Diversions for irrigation of 500 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	2.3	11	10	35	33	90	106	62	12	2.7	1.4
2	1.6	2.3	12	11	39	35	86	106	55	11	2.6	1.4
3	1.6	2.3	11	11	39	29	87	115	48	10	2.5	1.4
4	1.6	2.3	9.1	12	37	27	93	146	45	9.5	2.3	1.5
5	1.6	2.3	11	10	36	31	103	199	42	9.1	2.3	1.7
6	1.6	2.6	11	10	36	31	111	259	39	8.8	2.2	2.0
7	1.6	3.2	11	11	31	34	126	330	36	8.2	2.2	1.9
8	1.6	3.2	10	11	34	36	163	389	34	7.9	2.1	1.8
9	1.7	2.7	10	12	31	40	194	452	31	7.6	2.1	1.7
10	1.7	4.3	11	12	30	39	201	455	31	7.6	2.0	1.7
11	1.8	7.2	11	12	29	39	192	340	29	6.9	2.0	1.9
12	1.9	10	11	12	29	30	178	279	29	6.6	1.9	2.2
13	2.1	7.6	43	13	26	43	195	236	29	6.0	1.7	2.2
14	2.3	6.3	43	14	26	29	188	222	26	5.7	1.6	2.1
15	2.4	5.2	36	14	27	34	175	224	23	5.4	1.6	2.0
16	2.3	6.0	30	13	26	106	156	230	22	5.4	1.5	1.9
17	2.3	6.6	26	12	28	146	142	232	20	6.0	1.5	1.8
18	2.3	5.2	21	11	25	108	131	213	20	5.4	1.6	1.8
19	2.3	4.7	17	12	23	107	118	188	21	4.9	1.6	1.7
20	2.4	8.2	18	13	26	112	108	164	30	4.7	1.5	1.7
21	2.4	11	16	12	26	126	103	142	54	4.5	1.4	1.6
22	2.9	8.5	13	10	25	134	101	122	44	4.3	1.4	1.6
23	3.2	7.5	10	8	23	137	106	110	28	4.1	1.3	1.6
24	2.9	6.5	11	9	21	137	104	98	23	3.8	1.3	1.6
25	2.6	5.2	11	10	22	132	103	87	19	3.6	1.3	1.6
26	2.5	5.5	12	14	19	125	107	79	17	3.4	1.4	1.6
27	2.4	6.3	11	23	21	115	112	72	16	3.3	1.8	1.6
28	2.3	6.9	7.5	125	28	114	108	66	14	3.3	2.1	1.6
29	2.3	9.9	11	111	- - - - -	107	107	66	14	3.3	2.0	1.6
30	2.3	11	10	48	- - - - -	98	107	61	12	3.3	1.7	1.7
31	2.3	- - - - -	11	36	- - - - -	99	- - - - -	60	- - - - -	3.0	1.5	- - - - -
Total	66.4	172.8	486.6	642	798	2,413	3,895	5,848	913	188.6	56.7	51.9
Mean	2.14	5.76	15.7	20.7	28.5	77.8	130	189	30.4	6.08	1.83	1.73
Max	3.2	11	43	125	39	146	201	455	62	12	2.7	2.2
Min	1.6	2.3	7.5	8.0	19	27	86	60	12	3.0	1.3	1.4
Ac-ft	132	343	965	1,270	1,580	4,790	7,730	11,600	1,810	374	112	103

Cal yr 1966: Total 6,416.6 Mean 17.6 Max 280 Min 0.60 Ac-ft 12,730
Wtr yr 1967: Total 15,532 Mean 42.6 Max 455 Min 1.3 Ac-ft 30,810

Peak discharge (base, 350 cfs).--May 10 (0600 hrs) 488 cfs (4.36 ft).

10-4065. Trout Creek near Denio, Nev.

Location.--Lat 42°10', long 118°28', in SW¼ sec.26, T.39 S., R.36 E., on right bank 0.4 mile upstream from bridge at mouth of canyon 5 miles east of Trout Creek Ranch, and 14 miles northeast of Denio.

Drainage area.--88 sq mi, approximately.

Records available.--March 1911 to March 1912, April 1922 to November 1923, March 1925 to September 1931 (irrigation seasons only), April 1932 to September 1967. Prior to Oct. 1, 1961, published as "near Denio, Oreg."

Gage.--Water-stage recorder. Datum of gage is 4,351.52 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 25, 1911, to Mar. 31, 1912, staff gage at bridge 0.4 mile downstream at different datum. Apr. 28, 1922, to June 14, 1932, water-stage recorder at site 10 ft upstream at datum 0.50 ft higher.

Average discharge.--36 years (1922-23, 1932-67), 14.5 cfs (10,500 acre-ft per year).

Extremes.--Maximum discharge during year, 148 cfs May 24 (gage height, 3.60 ft); minimum, 1.4 cfs Dec. 27.

1911-12, 1922-23, 1925-67: Maximum discharge, 470 cfs Aug. 1, 1933 (gage height, 5.26 ft), from rating curve extended above 230 cfs by logarithmic plotting; minimum observed, 0.10 cfs Aug. 4, 1930, Aug. 1, Sept. 12, 28, 1934. Probably no flow at times Sept. 1-19, 1931.

Maximum stage known, 6.0 ft (caused by cloudburst), probably occurred in 1924 or 1925.

Remarks.--Records good. No regulation. Diversions for irrigation of 800 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	3.2	4.5	4.5	8.4	5.9	6.7	15	66	26	6.7	2.9
2	2.1	3.5	4.7	4.7	8.4	5.9	8.4	15	56	24	6.5	2.7
3	2.1	3.7	5.3	4.7	8.1	5.7	8.1	16	50	24	6.3	2.7
4	2.0	3.6	4.5	4.8	7.8	5.7	6.5	16	46	28	6.1	2.9
5	2.5	3.6	4.5	4.9	7.5	6.0	6.7	15	54	26	5.5	2.9
6	2.5	3.9	4.5	3.9	7.3	6.3	7.3	19	63	24	5.3	3.0
7	2.5	3.9	4.5	4.5	7.3	6.3	7.0	24	63	23	5.3	3.7
8	2.5	3.7	4.5	4.8	6.7	6.1	7.5	34	66	21	4.7	4.1
9	2.5	3.3	4.5	5.0	7.3	7.0	7.5	49	68	20	4.5	3.7
10	2.5	4.4	4.4	5.5	6.7	6.8	7.5	57	62	19	4.4	3.7
11	2.5	4.5	4.4	6.5	6.1	6.5	8.4	50	61	18	4.4	3.9
12	2.8	4.2	4.4	6.1	6.7	6.2	9.8	46	62	15	4.4	4.2
13	3.0	4.1	4.4	6.1	6.5	6.0	9.5	44	59	15	4.2	4.1
14	3.0	3.9	4.7	6.1	6.3	5.8	10	42	55	15	3.9	4.1
15	3.0	3.9	4.7	5.9	6.1	6.0	11	46	55	13	3.7	4.2
16	3.0	4.1	4.5	5.5	6.0	7.0	11	63	52	13	3.6	4.2
17	3.0	4.1	4.5	5.4	5.8	8.1	12	73	51	13	3.6	4.2
18	3.0	3.9	4.5	5.2	5.5	8.1	12	89	49	12	3.7	4.2
19	3.0	3.7	4.5	5.0	5.2	8.4	11	111	48	11	3.9	4.2
20	3.0	3.9	4.5	5.0	5.0	8.1	12	110	44	10	4.1	4.2
21	3.2	4.1	4.5	5.0	5.4	8.4	11	103	45	9.5	4.1	4.1
22	3.5	3.9	4.5	5.2	5.8	8.7	11	115	43	9.5	4.1	3.9
23	3.5	3.7	4.5	5.5	6.1	8.9	12	131	40	8.4	3.9	3.9
24	3.5	3.5	4.0	6.0	6.3	8.9	12	135	34	7.8	3.9	4.1
25	3.5	3.5	3.0	6.7	6.3	8.9	13	121	32	7.5	3.7	4.1
26	3.2	3.8	3.0	7.5	5.7	9.5	14	107	31	7.3	3.7	3.9
27	3.0	4.1	3.0	8.0	6.1	8.9	13	102	32	7.3	3.6	3.9
28	3.0	4.2	3.2	9.2	6.3	9.2	14	110	31	7.3	3.6	3.9
29	3.0	4.9	3.5	9.2		9.2	14	107	28	7.5	3.4	3.7
30	3.0	4.7	4.0	8.9	- - - - -	8.7	15	85	28	8.7	3.3	4.2
31	3.0	- - - - -	4.5	9.2	- - - - -	7.8	- - - - -	84	- - - - -	7.3	3.0	- - - - -
Total	87.9	117.5	132.7	184.5	182.7	229.0	308.9	2.134	1.474	458.1	135.1	113.5
Mean	2.84	3.92	4.28	5.95	6.52	7.39	10.3	68.8	49.1	14.8	4.36	3.78
Max	3.5	4.9	5.3	9.2	8.4	9.5	15	135	68	28	6.7	4.2
Min	2.0	3.2	3.0	3.9	5.0	5.7	6.5	15	28	7.3	3.0	2.7
Ac-ft	174	233	263	366	362	454	613	4,230	2,920	909	268	225

Cal yr 1966: Total 2,561.7 Mean 7.02 Max 35 Min 1.2 Ac-ft 5,080
Wtr yr 1967: Total 5,557.9 Mean 15.2 Max 135 Min 2.0 Ac-ft 11,020

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5- 10	1600	2.82	58				
5- 19	2300	3.34	133				
5- 24	1100	3.60	148				
6 - 9	1600	3.03	72				

GOOSE LAKE BASIN

11-3395. Drews Creek near Lakeview, Oreg.

Location.--Lat 42°07'10", long 120°34'45", in NW¼NE¼ sec.10, T.40 S., R.18 E., on left bank 10 ft upstream from bridge, 2.0 miles downstream from Willow Creek, 2.7 miles downstream from Drews Dam, and 13 miles southwest of Lakeview.

Drainage area.--212 sq mi.

Records available.--January 1909 to September 1930 (yearly estimate only for water year 1920), March 1931 to September 1936 (irrigation seasons only), April 1937 to September 1938, March 1939 to October 1941, February 1942, April 1942 to September 1952, February 1953 to September 1967. Monthly discharge only October 1921 to September 1925, published in WSP 1315-A. Published as Drew Creek near Lakeview October 1918 to September 1959.

Gage.--Water-stage recorder. Datum of gage is 4,827.0 ft above mean sea level (levels by Bureau of Reclamation). Prior to Dec. 13, 1911, staff gage, Dec. 13, 1911, to Apr. 30, 1921, water-stage recorder, and May 1, 1921, to Oct. 26, 1941, staff gage, at various sites within 1 mile below reservoir at different datums. Oct. 27, 1941, to June 21, 1942, staff gage and June 22, 1942, to July 3, 1953, water-stage recorder, at site a quarter of a mile upstream at datum 8.1 ft higher.

Average discharge.--36 years (1912-30, 1937-38, 1939-41, 1946-47, 1953-67), 68.7 cfs (49,740 acre-ft per year), including diversion by North Drews Canal.

Extremes.--Maximum discharge during year, 665 cfs May 18 (gage height, 4.31 ft); minimum, 1.0 cfs Oct. 13, 14.

1909-67: Maximum discharge, about 3,000 cfs Mar. 1, 2, 1910, from rating curve extended above 1,200 cfs; no flow at times.

Remarks.--Records good. Record herein, except average discharge, not adjusted for diversion by North Drews Canal. Since 1912, flow regulated by Drews Reservoir (capacity, 62,500 acre-ft). Diversions for irrigation of 3,100 acres above station, and since March 1914, North Drews Canal has diverted above station for irrigation of lands west of Lakeview.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	2.0	3.8	2.0	20	12	7.8	9.0	159	51	88	36
2	1.9	1.9	4.8	2.0	9.0	8.6	8.6	10	159	51	88	21
3	1.8	1.8	7.0	2.0	7.4	5.4	8.2	14	150	50	88	14
4	1.6	1.8	6.2	2.0	6.2	4.5	7.8	19	138	46	88	16
5	1.6	1.8	9.0	2.0	5.8	4.2	9.7	23	138	32	83	34
6	1.4	2.2	5.8	2.0	4.8	6.2	11	26	137	24	77	64
7	1.3	2.0	4.2	1.9	4.5	9.0	36	32	128	27	75	64
8	1.3	1.8	3.8	1.9	4.5	10	27	36	119	36	72	64
9	1.2	1.8	3.5	1.8	4.5	10	16	40	109	39	74	62
10	1.2	2.0	3.5	1.8	4.8	8.2	14	96	104	51	74	62
11	1.2	2.0	3.5	1.9	5.0	7.0	12	238	97	58	68	60
12	1.3	2.2	15	1.9	6.2	5.8	12	308	86	62	63	58
13	1.3	2.2	36	2.2	7.0	5.4	12	349	75	62	63	51
14	1.3	2.2	12	2.2	5.0	4.8	12	391	63	63	63	44
15	1.4	2.2	5.4	2.2	4.5	4.8	11	426	50	68	64	42
16	1.4	3.2	4.2	2.2	4.2	67	9.0	500	44	68	69	42
17	1.4	2.5	3.8	2.2	4.5	50	8.6	583	46	69	63	42
18	1.4	2.2	3.5	2.0	6.6	42	8.6	630	57	75	64	42
19	1.6	2.0	3.2	2.0	5.8	17	7.8	645	68	78	64	39
20	1.6	3.8	3.2	2.2	4.2	17	7.4	620	66	75	64	42
21	1.8	2.8	3.0	2.0	4.0	24	7.0	583	66	78	63	45
22	2.0	2.5	2.5	2.0	4.5	20	8.2	529	63	78	57	58
23	2.0	2.4	2.5	2.0	6.2	20	9.0	484	69	78	57	60
24	2.0	2.2	2.5	2.0	6.6	12	8.6	426	54	80	60	60
25	2.0	2.0	2.5	2.5	5.4	10	10	360	52	83	60	66
26	1.9	2.0	2.4	2.8	5.0	9.0	13	317	57	83	60	66
27	1.8	2.0	2.2	4.0	6.6	9.7	16	275	57	83	60	66
28	1.9	2.8	2.2	7.8	8.6	11	12	252	52	83	62	68
29	1.9	9.0	2.2	78	----------	8.2	9.7	238	52	83	63	70
30	1.9	4.2	2.2	72	----------	7.4	9.0	208	52	85	58	75
31	2.0	----------	2.2	42	----------	7.0	----------	182	----------	88	48	----------
Total	50.3	75.5	167.8	257.5	171.4	437.2	349.0	8,849.0	2,567	1,987	2,100	1,533
Mean	1.62	2.52	5.41	8.31	6.12	14.1	11.6	285	85.6	64.1	67.7	51.1
Max	2.0	9.0	36	78	20	67	36	645	159	88	88	75
Min	1.2	1.8	2.2	1.8	4.0	4.2	7.0	9.0	44	24	48	14
Ac-ft	100	150	333	511	340	867	692	17,550	5,090	3,940	4,170	3,040
(†)	0	0	0	0	0	0	0	1,530	2,950	3,630	3,940	3,560
(‡)	a19,650	20,690	a25,000	a27,200	a32,200	a43,800	54,160	66,120	a61,800	52,170	a42,500	a35,600

Cal yr 1966: Total 10,281.1 Mean 28.2 Max 108 Min 0.8 Ac-ft 20,390
Wtr yr 1967: Total 18,544.7 Mean 50.8 Max 645 Min 1.2 Ac-ft 36,780

† Diversion in acre-feet, by North Drews Canal. ‡ Month-end contents, in acre-feet, of Drews Reservoir. a Contents interpolated.

11-3405. Cottonwood Creek near Lakeview, Oreg.

Location.--Lat 42°14'05", long 120°30'05", in N½ sec.32, T.38 S., R.19 E., on right bank 0.7 mile downstream from Cottonwood Dam and 9 miles northwest of Lakeview.

Drainage area.--32.9 sq mi.

Records available.--November 1908 to September 1919, May 1923 to November 1935, March to December 1936, April to December 1937, April 1938 to November 1942, March to November 1943, March to October 1944, February to November 1945, March 1946 to September 1967. Monthly discharge only May 1924 to September 1925, published in WSP 1315-A.

Gage.--Water-stage recorder. Datum of gage is 4,949.37 ft above mean sea level (levels by Bureau of Reclamation). Prior to June 1, 1919, and May 1, 1924, to June 3, 1932, staff gage at several sites within 0.6 mile upstream at different datums. June 1 to Sept. 30, 1919, and June 4, 1932, to Sept. 14, 1961, water-stage recorder at site 0.6 mile upstream at different datums.

Average discharge.--46 years (1909-19, 1924-35, 1938-42, 1946-67), 21.4 cfs (15,490 acre-ft per year).

Extremes.--Maximum discharge during year, 100 cfs June 20 (gage height, 2.24 ft); minimum, 0.20 cfs Jan. 13-16, 19, 22-24.

1908-19, 1924-67: Maximum discharge, between 500 and 1,000 cfs during period Apr. 26 to May 1, 1927, when natural flow, estimated as 170 cfs, was augmented by water escaping from reservoir through break in outlet conduit near control gates; no flow at times.

Remarks.--Records good. Flow regulated since 1923 by Cottonwood Reservoir (capacity 7,540 acre-ft). Since October 1961, 250 acre-ft unregulated storage in Cottonwood Meadows, 9 miles upstream. Diversions for irrigation of 270 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	4.0	7.9	0.30	0.40	0.70	2.1	23	62	87	56	7.5
2	2.1	4.0	7.9	.30	.30	.50	2.3	24	58	83	51	11
3	1.8	4.6	7.9	.30	.30	.40	2.3	24	58	71	46	11
4	1.8	4.6	8.4	.20	.30	.40	2.5	24	62	66	44	11
5	2.1	4.6	9.0	.20	.30	.40	2.3	26	62	62	44	11
6	1.8	4.0	9.0	.20	.30	.50	2.5	26	62	62	44	12
7	2.1	4.6	9.0	.20	.30	.70	4.0	26	58	62	44	12
8	1.8	4.6	9.0	.20	.30	.90	4.6	26	56	62	46	12
9	2.1	3.3	9.0	.20	.30	.90	3.3	28	56	62	48	7.9
10	2.1	2.3	9.0	.20	.30	.70	3.0	28	62	62	51	6.8
11	2.1	2.3	9.0	.20	.30	.50	17	28	66	56	58	6.8
12	2.3	2.3	9.9	.20	.30	.50	28	28	66	53	58	6.8
13	2.3	1.8	11	.20	.30	.40	26	28	75	53	58	6.8
14	3.0	.80	9.9	.20	.30	.40	26	29	75	56	58	6.8
15	2.8	.50	9.9	.20	.30	.50	24	29	75	56	58	6.8
16	2.3	1.0	1.3	.20	.30	4.6	24	29	75	56	58	6.8
17	2.5	1.1	.30	.30	.30	7.9	24	29	75	58	62	6.8
18	2.5	1.8	.30	.20	.30	5.2	24	16	79	56	58	5.2
19	2.5	2.8	.30	.20	.30	2.8	24	4.6	87	62	56	3.5
20	2.8	3.5	.20	.20	.30	3.0	24	12	100	66	56	2.8
21	2.8	4.6	.20	.20	.30	5.2	24	23	96	66	53	3.0
22	3.0	5.2	.30	.20	.30	5.2	24	31	96	66	51	3.0
23	3.0	5.2	.20	.20	.30	5.2	23	34	92	87	51	3.3
24	3.3	6.2	.20	.20	.30	3.3	23	34	87	87	51	3.3
25	3.3	6.2	.20	.20	.30	2.8	23	39	83	87	48	3.3
26	3.5	6.2	.20	.20	.30	1.8	21	41	83	87	46	3.5
27	3.5	6.8	.30	.20	.40	2.5	21	44	83	83	46	8.6
28	3.5	7.4	.30	.30	.50	2.1	21	48	83	75	39	15
29	3.5	7.9	.20	4.6	----------	1.8	23	66	87	66	32	15
30	3.5	7.9	.20	9.9	----------	2.1	23	71	92	62	24	15
31	4.0	----------	.30	1.3	----------	2.1	----------	71	----------	58	9.4	----------
Total	81.8	122.10	140.80	21.90	8.80	66.00	495.9	989.6	2,251	2,075	1,504.4	234.3
Mean	2.64	4.07	4.54	.71	.31	2.13	16.5	31.9	75.0	66.9	48.5	7.81
Max	4.0	7.9	11	9.9	.50	7.9	28	71	100	87	62	15
Min	1.8	.50	.20	.20	.30	.40	2.1	4.6	56	53	9.4	2.8
Ac-ft	162	242	279	43	17	131	984	1,960	4,460	4,120	2,980	465
(†)	a40	a300	a700	a1,200	a1,700	a3,100	3,730	a8,900	a7,000	3,760	832	618

Cal yr 1966: Total 5,415.90 Mean 14.8 Max 58 Min 0.20 Ac-ft 10,740
Wtr yr 1967: Total 7,991.60 Mean 21.9 Max 100 Min 0.20 Ac-ft 15,850

† Month-end contents, in acre-ft, of Cottonwood Reservoir.
a Month-end contents interpolated.

11-4860. Lost River diversion canal near Olene, Oreg.

Location.--Lat 42°08'35", long 121°40'20", in SE¼SW¼ sec.29, T.39 S., R.10 E., on left bank at headgates and 3.0 miles southwest of Olene.

Records available.--May 1912 to September 1915, January 1916 to June 1917, October 1917 to April 1918, October 1918 to May 1919, October 1919 to September 1967. Published as "near Klamath Falls" January 1916 to April 1918.

Gage.--Staff gages above and below headgates read once daily. Altitude of gages is 4,080 ft (from topographic map). Mar. 29, 1916, to Apr. 22, 1918, and at times May 4, 1923, to Sept. 30, 1933, water-stage recorders at sites within one mile downstream at different datums.

Extremes.--1912-67: Maximum daily discharge, 3,140 cfs Dec. 24, 1964; no flow at times.

Remarks.--Records fair. Discharge computed from daily record of gate openings and head on gates with variable coefficient determined by discharge measurements. Canal diverts from right bank of Lost River in SW¼ sec.29, T.39 S., R.10 E., and discharges into Klamath River in NW¼ sec.17, T.39 S., R.9 E., for reclamation of land in the vicinity of Tule Lake. Discharge includes water occasionally wasted from "C" Canal and "C-4-e" wasteway (diversions from Link River), 1,260 acre-ft during 1967 water year. Beginning Oct. 1, 1966, records show net daily cfs to Klamath River and exclude water removed from the canal by Miller Hill pumping plant which operates at times; during period May through September 1967 pumpage (from Lost River source) amounted to 9,890 acre-ft. At times direction of flow is reversed and water diverted from Klamath River into Lost River. See record for Diversion from Klamath River to Lost River near Olene, sta. no. 5085.

Cooperation.--Records furnished by Bureau of Reclamation; reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	178	0	341	157	719	181	84	269	216	0	0	220
2	180	0	280	153	513	179	58	212	234	0	0	217
3	195	0	348	130	400	194	3	183	240	0	0	219
4	202	0	449	128	331	176	0	91	206	0	0	197
5	208	0	512	131	318	162	3	80	210	0	0	204
6	207	0	492	128	302	171	0	106	218	0	0	211
7	208	60	447	137	251	170	0	143	165	0	0	186
8	211	86	330	131	210	149	0	166	58	0	1	104
9	215	127	272	125	222	161	0	174	0	0	0	86
10	217	127	178	128	239	175	0	497	0	0	0	105
11	211	127	211	131	224	193	0	822	0	0	1	120
12	217	129	224	126	222	179	0	711	0	0	81	138
13	279	126	315	122	210	185	0	411	0	0	45	143
14	250	125	645	134	220	181	0	212	0	0	3	149
15	242	125	626	137	227	164	25	202	0	0	0	185
16	0	125	291	150	200	159	149	217	0	0	0	190
17	0	130	241	141	194	1,760	236	182	0	0	0	190
18	0	131	189	134	191	1,890	281	65	0	0	0	193
19	0	136	177	128	205	610	272	0	0	0	45	196
20	0	131	178	133	196	438	296	1	0	0	14	195
21	0	160	179	159	194	309	279	46	0	0	24	177
22	0	188	188	146	188	296	267	149	0	0	80	175
23	0	189	171	154	177	328	263	186	0	0	113	170
24	0	186	167	153	179	297	270	170	0	0	82	161
25	0	170	168	153	171	278	295	169	0	0	132	138
26	0	154	171	138	189	259	302	51	0	0	150	140
27	0	148	162	138	197	243	361	0	0	0	165	180
28	0	149	156	201	182	191	346	77	0	0	227	196
29	0	162	134	761	- - - - -	198	457	82	0	0	222	226
30	0	253	164	1,600	- - - - -	206	349	91	0	0	238	228
31	0	- - - - -	163	1,180	- - - - -	149	- - - - -	148	- - - - -	0	233	- - - - -
Total	3,220	3,444	8,569	7,467	7,071	10,231	4,596	5,913	1,547	0	1,856	5,239
Mean	104	115	276	241	253	330	153	191	51.6	0	59.9	175
Max	279	253	645	1,600	719	1,890	457	822	240	0	238	228
Min	0	0	134	122	171	149	0	0	0	0	0	86
Ac-ft	6,390	6,830	17,000	14,810	14,030	20,290	9,120	11,730	3,070	0	3,680	10,390

Cal yr 1966: Total 49,995 Mean 137 Max 671 Min 0 Ac-ft 99,160
Wtr yr 1967: Total 59,153 Mean 162 Max 1,890 Min 0 Ac-ft 117,300

11-4922. Crater Lake near Crater Lake, Oreg.
(Hydrologic bench-mark station)

Location.--Lat 42°58'45", long 122°04'45", (unsurveyed) Crater Lake National Park and Vicinity Quadrangle, at boat harbor at end of trail in Cleetwood Cove and 6 miles northeast of Crater Lake post office.

Drainage area.--26.2 sq mi, of which 20.5 sq mi is lake area at elevation 6,176 ft.

Records available.--October 1961 to September 1967. 1878 to September 1961 (fragmentary) available in files of Portland district office.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, unadjusted. Prior to September 1961, staff gage and various reference points used near old boat landing at abandoned trail (Eagle Cove) directly across Lake.

Extremes.--Maximum elevation during year, 6,175.41 ft Jan. 29; minimum, 6,173.49 ft Sept. 30.

1878-1967: Maximum observed elevation, 6,179.06 ft, from high-water mark, occurred in 1958 and noted Aug. 10, 1960; minimum observed, 6,163.2 ft Sept. 10, 1942.

Maximum elevation known, 6,180.5 ft, average of several observations of line of crustose lichens made between 1916 and 1960; that stage may have occurred near the close of the 19th century. The occurrence of living pine trees slightly higher suggests that the lake has not been materially higher for several centuries.

Remarks.--Crater Lake occupies the caldera of prehistoric Mount Mazama. It has no visible inlet or outlet. Over a period of years precipitation and runoff from snow melt on the walls of the crater are offset by seepage and evaporation. Records of chemical analyses and of water temperatures for the water year 1967 are published in Part 2 of this report. Records of accumulated annual precipitation, collected at the north rim of Crater Lake as part of the operation of this station, are published annually in reports of the U.S. Weather Bureau.

Elevation at midnight, in feet, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74.48	74.15	74.67	74.86	75.38	75.18	75.26	75.20	75.23	75.13	74.64	74.06
2	74.46	74.14	74.72	74.86	75.36	75.17	75.24	75.19	75.23	75.12	74.63	74.02
3	74.43	74.13	74.71	74.86	75.36	75.14	75.24	75.18	75.22	75.12	74.62	73.99
4	74.42	74.13	74.91	74.88	75.34	75.11	75.23	75.17	75.22	75.12	74.59	73.97
5	74.40	74.17	74.92	74.89	75.32	75.11	75.26	75.16	75.22	75.11	74.57	73.95
6	74.38	74.17	74.95	74.88	75.30	75.09	75.28	75.15	75.22	75.08	74.54	73.93
7	74.37	74.16	75.03	74.86	75.29	75.07	75.28	75.14	75.21	75.08	74.52	73.91
8	74.35	74.14	75.01	74.84	75.27	75.07	75.26	75.15	75.20	75.06	74.49	73.89
9	74.32	74.16	75.04	74.84	75.26	75.15	75.24	75.21	75.20	75.04	74.47	73.87
10	74.31	74.18	75.03	74.83	75.23	75.20	75.24	75.23	75.19	75.02	74.46	73.84
11	74.29	74.24	75.07	74.83	75.21	75.19	75.23	75.22	75.19	75.02	74.45	73.84
12	74.34	74.25	75.05	74.85	75.21	75.21	75.21	75.21	75.19	75.02	74.42	73.79
13	74.28	74.35	75.13	74.84	75.24	75.22	75.24	75.20	75.18	74.99	74.41	73.76
14	74.26	74.42	75.10	74.82	75.25	75.19	75.24	75.19	75.17	74.98	74.39	73.73
15	74.23	74.55	75.09	74.83	75.29	75.17	75.23	75.18	75.18	74.96	74.38	73.71
16	74.21	74.55	75.08	74.79	75.31	75.24	75.28	75.17	75.18	74.96	74.36	73.69
17	74.19	74.53	75.06	74.78	75.33	75.27	75.30	75.17	75.18	74.93	74.35	73.69
18	74.18	74.50	75.04	74.76	75.29	75.27	75.30	75.17	75.18	74.91	74.35	73.68
19	74.15	74.63	75.02	74.84	75.26	75.29	75.28	75.17	75.19	74.89	74.34	73.67
20	74.20	74.62	75.00	74.96	75.25	75.31	75.26	75.17	75.21	74.87	74.32	73.66
21	74.18	74.69	74.97	74.98	75.23	75.29	75.26	75.17	75.20	74.86	74.29	73.64
22	74.29	74.68	74.94	74.96	75.21	75.30	75.25	75.16	75.20	74.85	74.28	73.61
23	74.29	74.65	74.94	74.92	75.19	75.32	75.24	75.15	75.19	74.83	74.26	73.60
24	74.28	74.64	74.94	74.94	75.19	75.30	75.24	75.15	75.18	74.80	74.24	73.59
25	74.26	74.65	74.94	75.00	75.17	75.28	75.27	75.14	75.18	74.79	74.22	73.56
26	74.24	74.62	74.92	75.14	75.16	75.26	75.26	75.14	75.17	74.77	74.20	73.54
27	74.22	74.60	74.90	75.26	75.15	75.24	75.26	75.13	75.16	74.75	74.17	73.53
28	74.20	74.65	74.88	75.34	75.14	75.26	75.25	75.17	75.16	74.73	74.15	73.51
29	74.19	74.64	74.89	75.37		75.26	75.24	75.16	75.15	74.71	74.13	73.50
30	74.18	74.62	74.88	75.40	----------	75.30	75.22	75.18	75.14	74.68	74.10	73.50
31	74.16	----------	74.88	75.39	----------	75.28	----------	75.21	----------	74.66	74.09	----------
Max	74.48	74.69	75.13	75.40	75.38	75.32	75.30	75.23	75.23	75.13	74.64	74.06
Min	74.15	74.13	74.67	74.76	75.14	75.07	75.21	75.13	75.14	74.66	74.09	73.50

Note.--Add 6,100 ft to obtain elevation above mean sea level.

11-4935. Williamson River near Klamath Agency, Oreg.

Location.--Lat 42°44'25", long 121°50'00", in NW¼SW¼ sec.1, T.33 S., R.7 E., on right bank 250 ft downstream from highway bridge, 0.6 mile southwest of railroad station at Kirk, 10 miles upstream from Spring Creek, and 10 miles northeast of Klamath Agency.

Drainage area.--1,290 sq mi, approximately.

Records available.--March 1908 to January 1909, April 1909 to June 1910, October 1954 to September 1967. Monthly discharge only June 1910, published in WSP 1315-B.

Gage.--Digital water-stage recorder. Datum of gage is 4,481.34 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Mar. 25, 1908, to June 30, 1910, staff gage or graphic water-stage recorder at two sites about 0.5 mile upstream at different datums. Oct. 1, 1954, to Sept. 30, 1955, graphic water-stage recorder at present site at datum 2.05 ft higher. Oct. 1, 1955, to Sept. 28, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--13 years (1954-67), 231 cfs (167,200 acre-ft per year).

Extremes.--Maximum discharge during year, 508 cfs Apr. 21 (gage height, 4.84 ft); no flow Oct. 1 to Nov. 9, July 29 to Sept. 30.

1908-10, 1954-67: Maximum discharge observed, 1,590 cfs Mar. 13, 1910, (gage height. 3.7 ft, estimated from supplementary gage reading), from rating curve extended above 800 cfs; no flow at times during 1960-67.

Remarks.--Records good. Natural regulation by Klamath Marsh. Small diversions above station for irrigation in vicinity of marsh.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	208	211	206	249	458	435	163	65	0	0
2	0	0	227	211	220	261	457	425	157	60	0	0
3	0	0	230	208	226	254	456	414	152	57	0	0
4	0	0	211	208	227	226	452	405	147	52	0	0
5	0	0	167	188	228	260	448	403	141	47	0	0
6	0	0	208	191	234	272	461	389	135	42	0	0
7	0	0	211	197	236	277	470	377	133	38	0	0
8	0	0	208	185	233	279	461	357	129	34	0	0
9	0	0	224	183	233	267	470	343	127	31	0	0
10	0	.54	230	177	232	292	478	334	124	28	0	0
11	0	1.0	243	179	233	300	490	338	121	26	0	0
12	0	3.6	257	180	236	306	474	347	122	24	0	0
13	0	11	283	184	239	303	453	350	118	22	0	0
14	0	16	290	198	240	286	444	346	113	20	0	0
15	0	37	310	197	238	275	456	336	109	18	0	0
16	0	59	314	198	236	316	433	321	105	16	0	0
17	0	74	310	186	241	345	466	304	99	14	0	0
18	0	86	324	194	251	369	472	291	95	13	0	0
19	0	91	324	169	257	376	474	283	92	11	0	0
20	0	112	319	117	257	386	475	273	91	9.2	0	0
21	0	134	310	122	257	403	486	259	91	7.9	0	0
22	0	145	290	140	258	408	486	247	91	6.4	0	0
23	0	152	294	171	261	409	486	232	91	5.1	0	0
24	0	154	290	165	262	429	485	222	88	3.7	0	0
25	0	157	271	164	267	440	463	209	85	2.4	0	0
26	0	162	250	150	266	447	453	191	80	.95	0	0
27	0	164	250	135	262	449	445	180	78	.25	0	0
28	0	180	254	161	258	452	447	168	76	.02	0	0
29	0	191	240	187	------	443	434	160	73	0	0	0
30	0	194	243	206	------	439	437	154	70	0	0	0
31	0	------	227	210	------	449	------	165	------	0	0	------
TOTAL	0	2,124.14	8,017	5,572	6,794	10,667	13,870	9,258	3,296	653.92	0	0
MEAN	0	70.8	259	180	243	344	462	299	110	21.1	0	0
MAX	0	194	324	211	267	452	490	435	163	65	0	0
MIN	0	0	167	117	206	226	433	154	70	0	0	0
AC-FT	0	4,210	15,900	11,050	13,480	21,160	27,510	18,360	6,540	1,300	0	0

CAL YR 1966: TOTAL 56,271.34 MEAN 154 MAX 949 MIN 0 AC-FT 111,600
WAT YR 1967: TOTAL 60,252.06 MEAN 165 MAX 490 MIN 0 AC-FT 119,500

11-4975. Sprague River near Beatty, Oreg.

Location.--Lat 42°26'50", long 121°14'15", in NW¼SE¼ sec.13, T.36 S., R. 12 E., on right bank 1.6 miles east of Beatty, and 4.6 miles upstream from Sycan River.

Drainage area.--513 sq mi.

Records available.--April to September 1912 and November 1912 to September 1913 (fragmentary), October 1913 to September 1915, February to November 1916, March 1917 to June 1918, May 1919 to October 1920, February 1921 to September 1926 (irrigation seasons only), October 1953 to September 1967. Monthly discharge only October 1913, published in WSP 1315-B. Prior to October 1917, published as "near Yainax."

Gage.--Digital water-stage recorder. Datum of gage is 4,305.35 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Apr. 19, 1912, to Feb. 19, 1914, staff gage, Feb. 20, 1914, to Sept. 11, 1917, graphic water-stage recorder, and Sept. 12, 1917, to Sept. 30, 1926, staff gage, at site 2 miles upstream at different datum. Oct. 1, 1953 to Sept. 27, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--17 years (1913-15, 1919-20, 1953-67), 308 cfs (223,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,350 cfs May 23 (gage height, 8.44 ft); minimum, 98 cfs Aug. 26.

1912-26, 1953-67: Maximum discharge, 6,980 cfs Dec. 23, 1964 (gage height, 12.19 ft); minimum observed, 57 cfs June 30, 1924, June 20, 1926.

Remarks.--Records good. No regulation. Diversions for irrigation above station in the vicinity of Bly.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	131	150	272	173	712	239	298	338	1,030	252	133	111
2	129	150	322	164	474	272	305	340	1,110	247	122	111
3	129	155	391	173	362	228	316	373	985	243	118	113
4	131	155	389	175	322	201	316	435	859	230	120	113
5	129	160	566	173	309	203	318	511	787	214	111	115
6	131	160	534	164	265	203	342	597	757	201	115	113
7	126	160	364	159	243	210	384	689	782	184	115	111
8	133	160	267	166	239	225	485	841	720	188	120	113
9	135	160	223	168	232	245	430	1,070	681	181	122	113
10	133	165	228	170	225	265	412	1,580	654	192	120	113
11	135	170	241	168	219	225	391	1,820	636	192	120	120
12	137	180	322	170	223	239	375	1,580	621	195	118	131
13	142	180	541	177	241	239	400	1,190	607	186	115	122
14	144	180	736	184	221	228	423	1,030	566	173	115	122
15	159	180	416	181	208	223	453	1,050	545	164	111	120
16	155	190	289	177	212	333	453	1,220	506	159	109	124
17	153	195	245	162	214	1,320	400	1,520	481	162	120	124
18	173	177	232	164	250	1,420	400	1,820	423	168	118	126
19	157	173	217	177	241	790	384	2,030	403	159	115	129
20	157	208	208	175	201	504	355	2,110	451	151	115	131
21	155	230	197	173	192	435	344	2,130	446	146	109	129
22	157	201	175	162	197	449	340	2,200	520	144	113	122
23	162	175	191	146	203	488	375	2,280	453	146	113	124
24	159	173	184	181	214	460	435	2,290	421	144	104	122
25	159	162	181	175	214	393	391	2,190	382	148	102	126
26	157	179	179	168	214	360	375	1,910	357	140	102	126
27	155	170	168	186	208	342	373	1,660	327	137	113	124
28	155	184	159	206	221	344	495	1,490	285	133	113	124
29	153	236	181	588	------	340	414	1,410	276	133	115	124
30	153	309	179	1,280	------	316	357	1,270	272	118	113	126
31	153	------	168	1,050	------	309	------	1,100	------	113	113	------
TOTAL	4,537	5,427	8,955	7,735	7,276	12,048	11,539	42,074	17,343	5,343	3,562	3,622
MEAN	146	181	289	250	260	389	385	1,357	578	172	115	121
MAX	173	309	736	1,280	712	1,420	495	2,290	1,110	252	133	131
MIN	126	150	159	146	192	201	298	338	272	113	102	111
AC-FT	9,000	10,760	17,760	15,340	14,430	23,900	22,890	83,450	34,400	10,600	7,070	7,180

CAL YR 1966: TOTAL 81,912 MEAN 224 MAX 738 MIN 80 AC-FT 162,500
WAT YR 1967: TOTAL 129,461 MEAN 355 MAX 2,290 MIN 102 AC-FT 256,800

11-5010. Sprague River near Chiloquin, Oreg.

Location.--Lat 42°35'05", long 121°50'55", in NE¼NW¼ sec.35, T.34 S., R.7 E., on right bank 1.0 mile northeast of Chiloquin, 4.6 miles upstream from Modoc Point Canal intake, and 5.4 miles upstream from mouth.

Drainage area.--1,580 sq mi, approximately.

Records available.--July to October 1920, March 1921 to September 1967. Monthly discharge only July 1920, published in WSP 1315-B. Prior to October 1931, published as "at McCready Ranch, near Chiloquin."

Gage.--Digital water-stage recorder. Datum of gage is 4,202.43 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1931, staff gage at site 12 miles upstream at different datum. Oct. 1, 1931, to Sept. 28, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--46 years (1921-67), 559 cfs (404,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,600 cfs May 27 (gage height, 5.69 ft); minimum, 191 cfs Aug. 27.

1920-67: Maximum discharge, 14,900 cfs Dec. 26, 1964 (gage height, 10.37 ft); minimum daily, 50 cfs May 26, 27, 1926.

Remarks.--Records good. Regulation by ponding at irrigation dams. Diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	235	299	422	379	1,230	492	868	1,050	2,680	569	248	218
2	244	299	499	353	1,460	516	801	930	2,560	553	236	218
3	242	299	534	356	1,440	547	771	868	2,420	527	232	218
4	247	299	570	354	1,210	555	774	867	2,330	511	240	214
5	252	299	650	361	940	510	822	940	2,290	490	225	216
6	264	304	696	359	807	476	873	1,080	2,230	469	228	208
7	264	305	770	344	729	473	947	1,220	2,130	439	228	217
8	262	314	798	382	650	488	989	1,360	1,990	424	217	225
9	267	318	677	357	593	510	1,060	1,470	1,860	390	221	222
10	265	316	547	372	557	556	1,190	1,630	1,740	366	213	219
11	273	316	464	365	535	627	1,280	1,950	1,640	352	209	221
12	276	320	453	349	527	650	1,290	2,620	1,550	343	213	227
13	275	338	507	347	519	567	1,270	3,280	1,460	338	221	233
14	275	344	623	349	527	559	1,270	3,420	1,380	334	217	239
15	281	343	791	359	525	559	1,320	3,080	1,310	329	213	236
16	283	346	961	362	487	579	1,350	2,590	1,240	329	212	228
17	293	339	967	362	464	673	1,350	2,180	1,170	325	214	232
18	293	347	751	362	476	979	1,360	2,010	1,110	311	201	242
19	289	357	596	350	517	1,360	1,280	2,030	1,010	307	196	239
20	309	366	531	361	532	1,790	1,200	2,270	924	311	205	231
21	311	374	485	380	508	2,070	1,190	2,650	878	303	210	233
22	311	395	460	353	465	1,770	1,180	2,980	872	286	211	245
23	312	415	430	350	450	1,400	1,130	3,250	865	269	213	246
24	307	389	401	333	465	1,290	1,040	3,360	872	261	209	240
25	310	358	404	326	480	1,350	1,020	3,450	852	257	213	239
26	307	344	395	349	483	1,440	1,060	3,560	800	252	206	242
27	304	336	386	344	487	1,360	1,090	3,580	746	248	195	242
28	303	355	366	452	486	1,200	1,110	3,490	698	252	210	249
29	303	363	392	433	------	1,050	1,090	3,260	658	244	214	251
30	299	372	345	529	------	979	1,100	2,990	619	257	221	252
31	297	------	374	855	------	944	------	2,800	------	252	218	------
TOTAL	8,753	10,169	17,245	11,887	18,549	28,319	33,075	72,215	42,884	10,898	6,709	6,942
MEAN	282	339	556	383	662	914	1,103	2,330	1,429	352	216	231
MAX	312	415	967	855	1,460	2,070	1,360	3,580	2,680	569	248	252
MIN	235	299	345	326	450	473	771	867	619	244	195	208
AC-FT	17,360	20,170	34,200	23,580	36,790	56,170	65,600	143,200	85,060	21,620	13,310	13,770

CAL YR 1966: TOTAL 162,429	MEAN 445	MAX 1,700	MIN 169	AC-FT 322,200
WAT YR 1967: TOTAL 267,645	MEAN 733	MAX 3,580	MIN 195	AC-FT 530,900

11-5025. Williamson River below Sprague River, near Chiloquin, Oreg.

Location.--Lat 42°34'15", long 121°52'35", in NE¼NE¼ sec.4, T.35 S., R.7 E., on right bank 0.2 mile downstream from Sprague River and 0.8 mile southwest of Chiloquin.

Drainage area.--3,000 sq mi, approximately.

Records available.--June 1917 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 4,155.55 ft above mean sea level, datum of 1929. Prior to Aug. 31, 1923, graphic water-stage recorder at different datum. Sept. 1, 1923 to Apr. 23, 1965, graphic water-stage recorder at present datum.

Average discharge.--50 years, 1,017 cfs (736,300 acre-ft per year).

Extremes.--Maximum discharge during year, 4,300 cfs May 14 (gage height, 5.55 ft); minimum, 450 cfs Aug. 18, 19.

1917-67: Maximum discharge, 16,100 cfs Dec. 26, 1964 (gage height, 10.56 ft); minimum, 320 cfs Oct. 14, 1920.

Remarks.--Records excellent. Some regulation by diversion dams and logpond operations on Sprague River. Diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	535	612	964	928	1,760	1,070	1,690	1,820	3,100	946	528	503
2	542	612	1,050	886	1,990	1,100	1,620	1,720	2,960	910	522	503
3	542	605	1,100	886	1,990	1,130	1,580	1,650	2,820	878	515	496
4	549	612	1,140	894	1,780	1,110	1,580	1,630	2,720	846	515	496
5	556	619	1,160	878	1,540	1,080	1,640	1,700	2,670	814	503	503
6	563	626	1,220	862	1,390	1,070	1,700	1,810	2,600	782	503	489
7	556	626	1,330	822	1,310	1,080	1,780	1,930	2,500	742	509	503
8	549	647	1,340	806	1,220	1,100	1,820	2,050	2,370	735	489	515
9	556	647	1,250	838	1,160	1,120	1,880	2,160	2,210	690	496	509
10	549	647	1,120	870	1,120	1,170	2,000	2,320	2,090	661	483	509
11	563	654	1,030	870	1,100	1,250	2,100	2,610	1,990	647	483	509
12	570	654	1,030	854	1,090	1,290	2,110	3,250	1,880	633	483	515
13	563	675	1,100	854	1,100	1,200	2,080	4,030	1,800	626	489	522
14	563	690	1,240	862	1,090	1,180	2,060	4,250	1,720	612	496	528
15	570	705	1,420	878	1,090	1,160	2,110	3,880	1,650	605	483	535
16	563	727	1,610	878	1,050	1,220	2,140	3,260	1,580	605	476	522
17	570	735	1,640	878	1,030	1,360	2,150	2,820	1,520	598	476	528
18	577	750	1,430	870	1,050	1,670	2,170	2,600	1,470	577	470	535
19	570	782	1,260	862	1,100	2,060	2,100	2,600	1,420	577	463	528
20	598	806	1,180	830	1,120	2,510	2,020	2,820	1,380	584	470	515
21	605	838	1,130	814	1,090	2,830	2,000	3,190	1,300	584	476	515
22	605	870	1,090	790	1,050	2,580	2,000	3,580	1,280	570	476	522
23	598	902	1,060	750	1,040	2,190	1,960	3,860	1,280	556	483	528
24	605	886	1,020	814	1,050	2,060	1,880	3,980	1,280	549	483	522
25	619	854	1,010	822	1,070	2,120	1,860	4,030	1,260	549	489	515
26	619	838	973	846	1,070	2,230	1,860	4,150	1,200	549	483	522
27	612	838	955	814	1,060	2,170	1,880	4,170	1,140	535	470	522
28	612	870	919	946	1,060	2,000	1,880	4,030	1,090	542	476	528
29	612	886	955	955	------	1,860	1,870	3,780	1,050	535	483	535
30	612	902	910	1,060	------	1,790	1,870	3,480	1,000	542	496	542
31	605	------	919	1,410	------	1,760	------	3,230	------	535	496	------
TOTAL	17,908	22,115	35,555	27,327	34,570	49,520	57,390	92,390	54,330	20,114	15,163	15,514
MEAN	578	737	1,147	882	1,235	1,597	1,913	2,980	1,811	649	489	517
MAX	619	902	1,640	1,410	1,990	2,830	2,170	4,250	3,100	946	528	542
MIN	535	605	910	750	1,030	1,070	1,580	1,630	1,000	535	463	489
AC-FT	35,520	43,860	70,520	54,200	68,570	98,220	113,800	183,300	107,800	39,900	30,080	30,770

CAL YR 1966: TOTAL 339,646 MEAN 931 MAX 3,000 MIN 452 AC-FT 673,700
WAT YR 1967: TOTAL 441,896 MEAN 1,211 MAX 4,250 MIN 463 AC-FT 876,500

11-5041. Wood River near Fort Klamath, Oreg.

Location.--Lat 42°38'45", long 121°59'40", in NW¼NW¼ sec.10, T.34 S., R.7½ E., on left bank 50 ft downstream from bridge on Weed road, 3.5 miles downstream from Fort Creek, and 4.0 miles south of Fort Klamath.

Drainage area.--87.7 sq mi.

Records available.--October 1964 to September 1967 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 4,150 ft (from topographic map).

Extremes.--Maximum discharge during year, 420 cfs Dec. 14 (gage height, 3.32 ft); minimum, 61 cfs Aug. 7.

1964-67: Maximum discharge, 674 cfs Dec. 23, 1964 (gage height, 4.78 ft); minimum, 61 cfs Aug. 7, 1967.

Remarks.--Records excellent. No regulation. Several diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	322	322	382	330	342	332	332	331	257	283	105	190
2	322	322	385	326	338	340	334	331	270	271	137	185
3	322	321	374	331	336	334	342	334	256	262	127	192
4	322	321	380	332	336	330	343	336	248	256	120	194
5	322	321	388	334	334	331	346	338	191	235	94	193
6	322	328	376	330	331	334	343	337	162	158	86	197
7	322	324	366	326	330	342	348	340	153	148	76	209
8	321	321	360	328	328	343	361	348	153	153	75	211
9	321	320	362	326	326	349	364	360	151	172	84	212
10	321	325	355	328	326	348	370	350	154	180	121	216
11	322	336	355	328	326	342	366	343	163	175	129	226
12	322	343	366	331	325	349	367	334	172	154	135	236
13	324	350	396	340	330	346	368	332	188	151	140	256
14	317	352	404	342	326	332	358	332	180	152	160	265
15	325	348	379	337	326	328	352	338	139	150	150	258
16	324	364	364	337	325	358	352	332	136	153	134	266
17	322	355	355	328	326	376	355	322	156	148	99	264
18	322	348	354	334	328	368	352	318	161	142	101	265
19	326	350	350	338	325	355	352	284	190	141	111	278
20	326	379	350	343	321	360	355	221	281	146	145	293
21	326	379	350	337	320	368	362	223	308	146	142	299
22	337	361	337	328	321	376	358	239	313	137	120	292
23	338	354	338	328	324	393	356	242	312	144	89	293
24	330	349	338	331	325	362	355	223	307	152	92	292
25	328	346	337	328	325	349	352	217	301	161	89	292
26	325	350	332	328	322	343	346	217	300	154	100	293
27	330	350	330	332	322	343	344	224	290	133	116	294
28	325	361	324	361	324	346	342	234	280	121	126	292
29	322	378	332	368	- - - - -	337	336	238	286	110	155	293
30	322	366	331	358	- - - - -	336	330	233	294	106	169	293
31	322	- - - - -	330	348	- - - - -	334	- - - - -	234	- - - - -	84	188	- - - - -
Total	10.052	10.344	11.080	10.396	9.168	10.784	10.541	9.085	6.752	5.078	3.715	7.539
Mean	324	344	357	335	327	348	351	293	225	164	120	251
Max	338	379	404	368	342	393	370	360	313	283	188	299
Min	317	320	324	326	320	328	330	217	136	84	75	185
Ac-ft	19,940	20,520	21,980	20,620	18,180	21,390	20,910	18,020	13,390	10,070	7,370	14,950

Cal yr 1966: Total	111,597	Mean 306	Max 473	Min 110	Ac-ft 221,300
Wtr yr 1967: Total	104,534	Mean 286	Max 404	Min 75	Ac-ft 207,300

11-5042. Crooked Creek near Fort Klamath, Oreg.

Location.--Lat 42°37'05", long 121°56'25", in SW¼SE¼ sec.13, T.34 S., R.7½ E., on left bank 0.3 mile downstream from Agency Creek and 6.5 miles south of Fort Klamath.

Drainage area.--5.68 sq mi.

Records available.--October 1964 to September 1967 (discontinued).

Gage.--Staff gage read once daily. Altitude of gage is 4,150 ft (from topographic map).

Extremes.--Maximum observed discharge during year, 111 cfs Dec. 14 (gage height, 1.95 ft); minimum daily discharge, 59 cfs July 13.

1964-67: Maximum observed discharge, 164 cfs Dec. 23, 1964 (gage height, 3.30 ft); minimum daily discharge, 59 cfs July 13, 1967.

Remarks.--Records fair. No regulation. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	82	90	96	89	93	92	86	81	85	82	70
2	81	82	93	96	88	92	91	86	81	80	81	71
3	81	82	89	96	88	89	91	86	78	78	81	72
4	82	82	90	97	88	88	93	82	80	78	80	73
5	82	82	91	97	88	87	94	78	81	78	80	71
6	82	82	90	96	87	90	94	78	83	73	79	72
7	81	84	88	96	87	90	96	79	81	76	79	71
8	83	84	83	95	86	93	95	81	86	74	79	71
9	83	84	85	95	86	96	94	86	83	74	79	70
10	82	84	86	95	85	96	96	85	70	76	83	83
11	81	86	85	95	86	92	95	86	76	76	82	83
12	83	87	89	96	86	90	93	85	77	76	82	85
13	81	88	109	97	86	90	93	82	76	59	83	83
14	80	88	111	98	86	89	94	81	78	60	83	76
15	80	90	101	96	88	89	95	81	75	68	83	79
16	80	90	96	96	86	104	96	80	74	70	85	75
17	80	90	97	95	86	109	95	79	74	76	83	76
18	78	89	96	97	87	102	95	78	75	79	80	76
19	79	88	96	98	86	97	93	78	87	83	76	76
20	80	90	97	99	86	97	93	76	80	83	74	76
21	81	90	96	98	85	103	93	76	87	81	68	75
22	83	88	96	95	85	102	94	76	93	83	66	75
23	83	86	96	94	85	102	94	77	85	81	67	76
24	82	84	96	95	85	96	91	78	83	85	68	76
25	81	85	96	94	86	93	91	79	83	84	69	75
26	81	85	96	95	86	92	90	81	83	82	70	74
27	81	85	96	96	86	92	88	81	83	80	76	75
28	81	88	96	100	86	91	88	83	84	80	74	74
29	81	90	96	97	- - - - -	91	88	83	85	78	71	75
30	81	86	96	93	- - - - -	94	88	83	85	80	70	76
31	81	- - - - -	96	91	- - - - -	94	- - - - -	83	- - - - -	83	68	- - - - -
Total	2.516	2.581	2.918	2.974	2.419	2.923	2.783	2.513	2.427	2.399	2.381	2.260
Mean	81.2	86.0	94.1	95.9	86.4	94.3	92.8	81.1	80.9	77.4	76.8	75.3
Max	83	90	111	100	89	109	96	86	93	85	85	85
Min	78	82	83	91	85	87	88	76	70	59	66	70
Ac-ft	4,990	5,120	5,790	5,900	4,800	5,800	5,520	4,980	4,810	4,760	4,720	4,480

Cal yr 1966: Total 30,253	Mean 82.9	Max 127	Min 63	Ac-ft 60,010
Wtr yr 1967: Total 31,094	Mean 85.2	Max 111	Min 59	Ac-ft 61,670

11-5056. Fourmile Creek near Rocky Point, Oreg.

Location.--Lat 42°27'15", long 122°07'00", in SW¼NE¼ sec.9, T.36 S., R.6 E., on right bank 1,000 ft upstream from bridge on Pelican Butte road, 2.4 miles southwest of Rocky Point, and 1.5 miles upstream from mouth.

Drainage area.--105 sq mi.

Records available.--October 1964 to September 1967 (discontinued).

Gage.--Staff gage. Altitude of gage is 4,150 ft (from topographic map).

Extremes.--Maximum observed discharge during year, 131 cfs May 24 (gage height, 4.40 ft), no flow many months.

1964-67: Maximum discharge, 484 cfs Dec. 22, 1964 (gage height, 7.0 ft, from floodmark), from rating curve extended above 160 cfs by logarithmic plotting; no flow many months each year.

Remarks.--Records poor. Natural flow of stream affected by transmountain diversion, storage at Fourmile Lake, and seepage losses.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0	2.1	3.6	2.6	85	13		
2			.20	0	0	2.1	3.6	2.8	88	13		
3			.40	0	0	1.5	3.6	2.3	85	6.8		
4			.80	0	0	1.7	3.9	2.6	85	3.6		
5			1.0	0	0	1.1	3.9	2.6	84	2.3		
6			1.3	0	0	.94	4.3	2.6	95	1.2		
7			1.0	0	0	.82	4.3	2.6	95	.6		
8			.50	0	0	.82	4.3	2.9	106	.6		
9			0	0	0	1.5	4.3	2.9	110	0		
10			1.2	0	0	.82	4.7	4.3	104	0		
11			1.3	0	0	2.6	3.9	4.3	103	0		
12			3.9	0	1.3	.82	3.6	3.9	103	0		
13			4.3	0	1.2	1.5	3.9	3.9	79	0		
14			4.7	0	.82	1.3	3.6	4.3	76	0		
15			5.0	0	.70	3.3	3.9	4.7	76	0		
16			3.9	0	0	8.3	3.9	8.9	76	0		
17			1.2	0	0	6.3	3.6	34	68	0		
18			1.1	0	0	4.7	3.3	49	90	0		
19			.94	0	.82	3.9	3.9	53	84	0		
20			0	0	.70	4.3	3.9	63	95	0		
21			0	0	.60	3.9	4.3	77	87	0		
22			0	0	.70	4.7	3.9	107	66	0		
23			0	0	.82	5.4	3.9	124	64	0		
24			0	0	.60	5.0	3.6	131	60	0		
25			0	0	.50	5.4	3.6	113	41	0		
26			0	0	1.5	4.7	3.9	106	39	0		
27			0	0	1.5	3.6	3.9	108	33	0		
28			0	1.0	1.2	3.9	3.6	110	26	0		
29			0	1.0		3.9	3.6	111	20	0		
30			0	0	- - - - -	3.6	2.6	111	18	0		
31		- - - - -	0	0	- - - - -	4.3	- - - - -	84	- - - - -	0		- - - - -
Total	0	0	32.74	2.0	12.96	98.82	114.9	1,439.2	2,241	41.1	0	0
Mean	0	0	1.06	0.06	0.46	3.19	3.83	46.4	74.7	1.33	0	0
Max	0	0	5.0	1.0	1.5	8.3	4.7	131	110	13	0	0
Min	0	0	0	0	0	.82	2.6	2.3	18	0	0	0
Ac-ft	0	0	65	4.0	26	196	228	2,850	4,440	82	0	0

Cal yr 1966: Total 1,861.84 Mean 5.10 Max 66 Min 0 Ac-ft 3,690
Wtr yr 1967: Total 3,982.72 Mean 10.9 Max 131 Min 0 Ac-ft 7,900

11-5057. Varney Creek near Rocky Point, Oreg.

Location.--Lat 42°27'00", long 122°06'50", in NE¼SE¼ sec.9, T.36 S., R.6 E., on left bank at culvert crossing on Pelican Butte Road, 0.2 mile north of Pelican guard station, 2.6 miles southwest of Rocky Point, and 1.0 mile upstream from mouth.

Drainage area.--7.43 sq mi.

Records available.--October 1964 to September 1967 (discontinued).

Gage.--Staff gage read once daily. Altitude of gage is 4,150 ft (from topographic map).

Extremes.--Maximum discharge during year, 8.9 cfs May 24 (gage height, 2.20 ft); no flow Oct. 1 to Dec. 13, Dec. 20 to Feb. 28, Aug. 14 to Sept. 30.

1964-67: Maximum discharge, 163 cfs Dec. 22, 1964 (gage height, 7.20 ft, from floodmark), from rating curve extended above 22 cfs by logarithmic plotting; no flow at times each year.

Remarks.--Records poor. No regulation or diversion.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			.10	0.62	0.42	6.7	1.0	0.32	
2			0			.10	.62	.38	6.5	.90	.32	
3			0			.10	.62	.45	6.5	.90	.32	
4			0			.10	.54	.50	6.5	.80	.32	
5			0			.10	.48	.60	6.2	.70	.32	
6			0			.10	.54	.80	7.0	.70	.28	
7			0			.10	.54	1.0	7.2	.65	.28	
8			0			.10	.54	1.5	7.7	.60	.28	
9			0			.10	1.4	2.0	7.7	.55	.28	
10			0			.10	1.4	.70	7.5	.55	.28	
11			0			.10	1.1	.70	7.2	.54	.24	
12			0			.10	.97	.50	7.0	.50	.24	
13			0			.20	.86	.50	6.5	.50	.24	
14			.13			.30	1.1	.54	6.2	.48	0	
15			.13			.62	.97	.54	6.1	.42	0	
16			.15			.70	.78	.70	6.1	.42	0	
17			.17			.32	.97	1.2	6.1	.42	0	
18			.11			.62	.97	2.6	6.1	.40	0	
19			8			.97	.86	5.8	6.2	.35	0	
20			0			.86	.86	4.3	6.2	.35	0	
21			0			1.1	.78	6.4	6.0	.35	0	
22			0			1.5	.78	7.1	6.0	.35	0	
23			0			2.4	.86	7.8	5.5	.24	0	
24			0			2.2	.97	8.9	5.5	.24	0	
25			0			1.9	.90	7.7	3.9	.22	0	
26			0			.78	.78	7.5	3.4	.21	0	
27			0			.70	.74	7.5	2.2	.21	0	
28			0			.62	.70	7.7	1.2	.19	0	
29			0			.62	.78	7.7	1.2	.24	0	
30			0		- - - - -	.70	.42	7.5	1.0	.24	0	
31		- - - - -	0		- - - - -	.78	- - - - -	7.2	- - - - -	.28	0	- - - - -
Total	0	0	0.77	0	0	19.09	24.45	108.73	169.1	14.50	3.72	0
Mean	0	0	.02	0	0	0.62	0.82	3.51	5.64	0.47	0.12	0
Max	0	0	.17	0	0	2.4	1.4	8.9	7.7	1.0	.32	0
Min	0	0	0	0	0	.10	.42	.38	1.0	.19	0	0
Ac-ft	0	0	1.5	0	0	38	48	216	335	29	7.4	0

Cal yr 1966: Total 202.19 Mean 0.55 Max 6.4 Min 0 Ac-ft 401
Wtr yr 1967: Total 340.36 Mean 0.93 Max 8.9 Min 0 Ac-ft 675

11-5060. "A" Canal at Klamath Falls, Oreg.

Location.--Lat 42°12'20", long 121°48'05", in NE¼ sec.30, T.38 S., R.9 E., on left bank 300 ft downstream from headgates of canal and 1 mile northwest of Klamath Falls.

Records available.--October 1910 to September 1967. Published as "Klamath Main Canal" 1911-12.

Gage.--Water-stage recorder. Datum of gage is 4,126.22 ft above mean sea level, Bureau of Reclamation datum (levels by Bureau of Reclamation). Prior to May 1, 1923, water-stage recorder at site 0.2 mile downstream at head of tunnel and at different datum. May 1, 1923, to Apr. 20, 1924, water-stage recorder at site 1 mile downstream, just below tunnel, at different datum. Apr. 21, 1924, to Apr. 14, 1925, staff gage at present site and datum.

Average discharge.--57 years, 246 cfs (178,100 acre-ft per year).

Extremes.--1910-67: Maximum daily discharge, 1,180 cfs June 24, 1961; no flow for several months in each year.

Remarks.--Records excellent. Canal diverts water from Upper Klamath Lake in NE¼ sec.30, T.38 S., R.9 E., for irrigation of lands east of Klamath River on both sides of Lost River. Most of return water reaches Lost River.

Cooperation.--Gage-height record, 6 discharge measurements, and records of daily discharge furnished by Klamath Irrigation District; 6 discharge measurements made and records reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	620						0	82	826	897	960	756
2	628						0	82	738	862	970	726
3	622						0	103	723	849	973	692
4	617						0	121	727	877	976	669
5	624						0	157	721	918	967	690
6	614						0	180	719	940	922	706
7	582						0	223	734	916	903	731
8	556						0	250	801	896	903	724
9	556						0	299	819	886	890	707
10	554						27	259	824	894	885	692
11	583						99	213	842	891	892	641
12	582						113	158	879	897	875	628
13	528						128	141	917	933	842	599
14	508						144	139	983	956	827	587
15	164						120	140	1,030	979	846	587
16	0						98	161	1,040	970	874	594
17	0						98	179	1,020	968	900	590
18	0						75	244	993	967	891	542
19	0						67	328	1,040	962	877	554
20	0						67	417	1,070	973	836	573
21	0						89	501	1,020	992	840	587
22	0						94	610	973	999	881	584
23	0						87	716	926	990	862	596
24	0						85	751	891	977	807	565
25	0						81	797	836	984	780	568
26	0						81	824	817	990	785	579
27	0						81	868	842	996	782	584
28	0						81	881	885	973	749	583
29	0						81	882	903	955	714	579
30	0				- - - - -		81	903	917	955	755	545
31	0	- - - - -			- - - - -		- - - - -	898	- - - - -	955	781	- - - - -
Total	8,338	0	0	0	0	0	1,877	12,507	26,456	29,197	26,745	18,758
Mean	269	0	0	0	0	0	62.6	403	882	942	863	625
Max	628	0	0	0	0	0	144	903	1,070	999	976	756
Min	0	0	0	0	0	0	0	82	719	849	714	542
Ac-ft	16,540	0	0	0	0	0	3,720	24,810	52,470	57,910	53,050	37,210

Cal yr 1966: Total 151,609 Mean 415 Max 1,070 Min 0 Ac-ft 300,700
Wtr yr 1967: Total 123,878 Mean 339 Max 1,070 Min 0 Ac-ft 245,700

11-5070. Upper Klamath Lake near Klamath Falls, Oreg.

Location.--Lat 42°15'00", long 121°48'55", in NW¼SW¼ sec.19, T.38 S., R.9 E., at southeast end of lake, 1.4 miles upstream from outlet and 2.5 miles northwest of Main Street Bridge (U.S. Highway 97) at Klamath Falls.

Drainage area.--3,810 sq mi, approximately, including 26.2 sq mi in closed basin of Crater Lake.

Records available.--May 1904 to September 1923 (gage heights only), October 1923 to September 1967. Month-end contents only October 1923 to September 1927, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 4,098.22 ft above mean sea level, datum of 1929, or 4,100.00 ft above mean sea level, datum of Bureau of Reclamation. May 28, 1904, to Dec. 31, 1905, staff gage at Pelican Bay at datum 37.78 ft higher. Jan. 7 to Feb. 15, 1906, staff gage, Feb. 16, 1906, to June 16, 1918, water-stage recorder, and June 17, 1918, to Nov. 9, 1923, staff gage, at Buena Vista landing at datum 35.93 to 36.13 ft higher, date of change unknown.

Extremes.--Maximum elevation during year, 4,143.84 ft June 4 (caused by wind); maximum daily, 4,143.21 ft June 7, 8; minimum, 4,138.17 ft Nov. 20; minimum daily 4,138.83 ft Nov. 13.

1904-67: Maximum elevation, 4,144.98 ft about Apr. 20, 1904, from high-water marks; minimum recorded, 4,135.55 ft Oct. 30. 1944.

Remarks.--Reservoir is formed by concrete dam at outlet of natural lake, completed in 1921, replacing a temporary dam built in 1919; controlled storage began Apr. 15, 1919. Capacity, 584,000 acre-ft between elevations 4,135.0 and 4,143.3 ft. Dead storage below elevation 4,135.0 ft not known. Stored water may be diverted through "A" Canal for irrigation of land under Klamath project of Bureau of Reclamation, or released to Link River through dam or powerplants at Klamath Falls. Lake elevations have been adjusted for the affect of wind. Contents given herein represent those above elevation 4,135.0 ft.

Cooperation.--Capacity table furnished by Pacific Power & Light Co.

Capacity table (elevation, in feet, and contents, in acre-feet)

4,138	178,700	4,141	382,600	4,143.3	584,000
4,139	239,500	4,142	468,000		
4,140	304,100	4,143	556,600		

Mean elevation, in feet, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39.73	39.45	39.81	40.29	40.41	40.59	42.02	42.92	43.12	43.10	42.02	40.84
2	39.75	39.44	39.90	40.19	40.47	40.71	42.11	42.96	43.12	43.05	41.97	40.84
3	39.68	39.50	39.84	40.18	40.50	40.78	42.09	42.93	43.15	43.03	41.91	40.81
4	39.68	39.50	39.64	40.16	40.52	40.83	42.11	42.96	43.15	43.04	41.91	40.75
5	39.67	39.39	40.09	40.16	40.55	40.79	42.03	42.97	43.14	43.01	41.91	40.81
6	39.65	39.45	40.11	40.24	40.56	40.73	42.02	42.94	43.13	42.99	41.88	40.77
7	39.66	39.43	40.13	40.17	40.60	40.79	42.29	42.93	43.21	42.92	41.73	40.67
8	39.65	39.42	40.26	40.15	40.57	40.80	42.33	42.92	43.21	42.88	41.75	40.68
9	39.65	39.25	40.15	40.14	40.57	40.71	42.25	42.94	43.18	42.87	41.70	40.59
10	39.59	39.25	40.20	40.13	40.55	40.87	42.13	42.96	43.19	42.80	41.55	40.53
11	39.60	39.25	40.21	40.11	40.57	40.85	42.53	42.95	43.18	42.79	41.54	40.60
12	39.65	39.30	40.15	40.10	40.55	40.89	42.46	43.01	43.20	42.77	41.54	40.56
13	39.60	38.83	40.16	40.10	40.62	40.87	42.37	43.01	43.19	42.77	41.54	40.53
14	39.46	38.93	40.26	40.10	40.72	40.39	42.43	43.00	43.15	42.72	41.54	40.50
15	39.54	39.27	40.31	40.11	40.54	40.50	42.64	42.99	43.14	42.70	41.49	40.47
16	39.46	39.38	40.32	40.10	40.52	40.92	42.35	42.98	43.13	42.61	41.42	40.41
17	39.44	39.34	40.33	40.09	40.58	41.04	42.49	43.00	43.10	42.60	41.40	40.39
18	39.42	39.41	40.34	40.05	40.67	41.25	42.62	43.02	43.08	42.58	41.35	40.48
19	39.36	38.95	40.34	39.90	40.58	41.13	42.73	43.00	43.12	42.51	41.31	40.38
20	39.35	39.21	40.39	39.96	40.57	41.27	42.68	43.00	43.12	42.48	41.33	40.37
21	39.39	39.52	40.39	40.12	40.52	41.33	42.82	43.02	43.17	42.41	41.30	40.36
22	39.31	39.66	40.32	40.07	40.53	41.15	42.76	43.02	43.19	42.35	41.22	40.41
23	39.43	39.73	40.22	40.06	40.52	41.54	42.75	43.06	43.10	42.26	41.18	40.38
24	39.44	39.73	40.22	39.98	40.31	41.67	42.85	43.08	43.13	42.26	41.15	40.33
25	39.42	39.66	40.45	39.99	40.55	41.76	42.87	43.06	43.13	42.29	41.10	40.32
26	39.45	39.71	40.34	40.04	40.55	41.79	42.74	43.08	43.15	42.21	41.05	40.33
27	39.46	39.82	40.25	40.11	40.53	41.77	42.85	43.07	43.14	42.14	41.00	40.24
28	39.46	39.91	40.24	40.18	40.50	41.87	42.87	43.06	43.11	42.08	40.98	40.23
29	39.45	39.91	40.27	40.17	----------	41.97	42.91	43.08	43.10	42.08	40.94	40.20
30	39.46	39.86	40.24	40.31	----------	41.67	42.90	43.06	43.09	42.08	40.95	40.24
31	39.44	----------	40.23	40.34	----------	41.91	----------	43.14	----------	42.06	40.86	----------
Max	39.75	39.91	40.45	40.34	40.72	41.97	42.91	43.14	43.21	43.10	42.02	40.84
Min	39.31	38.83	39.64	39.90	40.31	40.39	42.02	42.92	43.08	42.06	40.86	40.20
(†)	267,800	294,800	321,100	331,900	350,800	464,500	549,300	566,600	563,900	469,800	371,800	312,900
(‡)	-17,500	+27,000	+26,300	+10,800	+18,900	+113,700	+84,800	+17,300	-2,700	-94,100	-98,000	-58,900

Cal yr 1966: Max 42.70 Min 38.83 Ac-ft ‡ +48,200
Wtr yr 1967: Max 43.21 Min 38.83 Ac-ft ‡ +27,600

† Contents in acre-feet, at end of month. ‡ Change in contents in acre-feet.
Note.--Add 4,100.00 ft to obtain elevation above mean sea level, Bureau of Reclamation datum.

11-5075. Link River at Klamath Falls, Oreg.

Location.--Lat 42°13'25", long 121°47'35", in SW¼NW¼ sec.32, T.38 S., R.9 E., on right bank 600 ft upstream from outlet of Keno Canal and 0.4 mile upstream from Main Street Bridge at Klamath Falls.

Drainage area.--3,810 sq mi, approximately, including 26.2 sq mi in closed basin of Crater Lake.

Records available.--May 1904 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 4,083.71 ft above mean sea level, datum of 1929, or 4,085.50 ft above mean sea level, datum of Bureau of Reclamation. Prior to Sept. 14, 1912, graphic water-stage recorder, staff and chain gages at several sites within half a mile of present site at various datums. Sept. 14, 1912, to Nov. 23, 1923, graphic water-stage recorder at site 600 ft downstream at datum 5.42 ft lower. Nov. 24, 1923, to Nov. 15, 1961, graphic water-stage recorder on left bank at present datum. Nov. 16, 1961, to June 8, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--63 years, 1,601 cfs (1,159,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,320 cfs May 13; minimum daily, 120 cfs Mar. 17.

1904-67: Maximum discharge, 9,400 cfs May 12, 1904 (gage height at Main Street Bridge, 7.30 ft, datum then in use, from flood-marks); minimum daily, 17 cfs Dec. 13, 1937.

Remarks.--Records good. Flow regulated since April 1919 by Upper Klamath Lake (see sta. no. 5070). Large diurnal fluctuation caused by powerplant above station. Water diverted above station by main or "A" Canal of Klamath project (see sta. no. 5060). Many other diversions above lake. All records presented herein include flow in Keno Canal which, since September 1908, has diverted from Upper Klamath Lake at Link River Dam for power generation, and returns flow to Link River below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	424	1,530	1,660	2,280	984	1,610	428	2,280	2,720	834	808	1,040
2	782	1,500	1,750	2,300	1,550	1,460	232	2,290	2,670	842	859	1,190
3	788	1,620	1,790	2,380	1,930	1,270	830	2,330	2,530	825	919	1,180
4	921	1,550	1,790	2,430	2,240	886	1,400	2,500	2,470	766	919	1,180
5	1,160	1,550	1,660	2,400	2,380	648	1,460	2,420	2,470	568	834	1,160
6	1,300	1,550	1,430	2,320	2,380	598	1,460	2,250	2,080	728	792	1,200
7	1,270	1,550	1,570	2,320	2,380	579	1,470	2,250	1,430	855	732	1,200
8	1,240	1,540	1,830	2,320	2,330	635	1,040	2,030	1,240	737	643	1,300
9	1,270	1,470	2,060	2,320	2,320	803	628	1,720	1,340	674	910	1,450
10	1,270	1,350	2,160	2,320	2,380	902	1,270	1,630	1,110	674	1,140	1,430
11	1,320	1,290	2,150	2,320	2,360	936	1,740	1,520	658	665	1,140	1,260
12	1,400	1,340	2,200	2,320	2,380	886	1,670	2,280	766	665	893	1,160
13	1,420	1,390	2,290	2,270	2,380	892	1,660	4,440	834	849	509	1,160
14	1,320	1,380	2,120	2,170	2,100	864	1,580	5,150	834	1,320	665	1,150
15	1,230	1,400	1,830	2,110	2,360	786	1,050	4,460	885	1,050	1,230	1,140
16	1,280	1,340	1,900	2,200	2,320	421	509	3,520	1,060	834	1,370	1,140
17	1,350	1,270	2,130	2,330	2,250	120	424	3,340	1,090	937	1,480	1,160
18	1,390	1,270	2,330	2,330	2,250	176	1,390	2,940	1,050	928	1,470	1,200
19	1,420	1,240	2,440	2,320	2,250	964	2,090	2,620	946	859	1,150	1,220
20	1,420	1,220	2,430	2,320	2,250	1,030	2,140	2,790	910	757	868	1,200
21	1,400	1,220	2,380	2,170	2,250	374	2,230	2,820	910	757	859	1,080
22	1,420	1,230	2,320	1,980	2,220	355	2,210	2,840	910	800	1,000	1,010
23	1,350	1,000	2,320	2,070	2,130	362	2,120	2,370	902	868	1,210	707
24	1,290	336	2,250	2,220	2,050	385	2,090	2,150	834	919	1,200	439
25	1,290	332	2,220	2,270	2,070	419	2,090	2,630	571	973	737	817
26	1,380	372	2,200	2,240	2,070	362	2,080	3,120	469	973	665	834
27	1,420	434	2,190	1,850	2,100	385	2,170	3,270	621	1,020	580	800
28	1,470	938	1,880	1,620	1,930	449	2,290	3,210	774	1,040	503	658
29	1,480	1,540	2,190	1,690	------	515	2,290	3,140	792	1,030	470	509
30	1,440	1,710	2,190	1,100	------	545	2,290	3,120	825	919	445	388
31	1,500	------	2,220	464	------	580	------	2,960	------	808	529	------
TOTAL	39,415	37,462	63,880	65,754	60,594	21,197	46,331	86,390	36,701	26,474	27,529	31,362
MEAN	1,271	1,249	2,061	2,121	2,164	684	1,544	2,787	1,223	854	888	1,045
MAX	1,500	1,710	2,440	2,430	2,380	1,610	2,290	5,150	2,720	1,320	1,480	1,450
MIN	424	332	1,430	464	984	120	232	1,520	469	568	445	388
AC-FT	78,180	74,300	126,700	130,400	120,200	42,040	91,900	171,400	72,800	52,510	54,600	62,210

CAL YR 1966: TOTAL 403,726 MEAN 1,106 MAX 2,560 MIN 99 AC-FT 800,800
WAT YR 1967: TOTAL 543,089 MEAN 1,488 MAX 5,150 MIN 120 AC-FT 1,077,000

Adjusted for diversion by "A" Canal

Mean	1,540	1,249	2,061	2,121	2,164	684	1,607	3,191	2,106	1,795	1,250	1,671
Ac-ft	94,720	74,300	126,700	130,400	120,200	42,040	95,620	196,200	125,300	110,400	107,600	99,420

	Observed				Adjusted		
Cal yr 1966:	Max 2,560	Min 99	Mean 1,106	Ac-ft 800,800	Mean 1,522	Ac-ft 1,102,000	
Wtr yr 1967:	Max 5,150	Min 120	Mean 1,488	Ac-ft 1,077,000	Mean 1,827	Ac-ft 1,323,000	

11-5085. Diversion from Klamath River to Lost River near Olene, Oreg.

Location.--Lat 42°08'25", long 121°41'20", in NE¼NW¼ sec.31, T.39 S., R.10 E., on south bank of Lost River diversion canal, 0.5 mile east of bridge on State Highway 39, 0.9 mile downstream from dam on Lost River, and 3.8 miles southwest of Olene.

Records available.--April 1931 to September 1967. Published with records for Lost River diversion canal near Olene in 1931.

Gage.--Staff gage read once daily. Altitude of gage is 4,080 ft (from topographic map).

Average discharge.--37 years, 34.0 cfs (24,610 acre-ft per year).

Extremes.--1931-67: Maximum daily discharge, 719 cfs Apr. 15, 1951; no flow at times.

Remarks.--Records fair. Discharge computed from daily record of gate openings and gage readings at wasteway with coefficients applied based on discharge measurements. Canal was built to divert water from Lost River to Klamath River and thereby aid in reclamation of Tule Lake (see record for Lost River diversion canal near Olene, sta. no. 4860). Beginning in April 1931, water has been diverted at times from Klamath River and released into Lost River, from which it is rediverted for irrigation of lands near Tule Lake. Since 1949 records include water removed from the diversion canal by Miller Hill pumping plant (capacity 105 cfs); during period May to August 1967 pumpage amounted to 11,720 acre-ft.

Cooperation.--Records furnished by Bureau of Reclamation; reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		8					0	0	0	187	223	0
2		63					0	0	0	169	251	0
3		54					0	0	0	190	234	0
4		67					35	0	0	143	108	0
5		91					0	0	0	138	21	0
6		11					45	0	0	201	33	0
7		0					63	0	0	205	28	0
8		0					48	0	0	113	0	0
9		0					46	0	59	130	8	0
10		0					29	0	114	109	61	0
11		0					21	0	163	124	0	0
12		0					28	0	274	239	0	0
13		0					81	0	356	333	0	0
14		0					34	0	436	309	0	0
15		0					0	0	551	215	39	0
16		0					0	0	587	249	69	0
17		0					0	0	559	295	122	0
18		0					0	0	468	183	66	0
19		0					0	0	407	125	0	0
20		0					0	0	378	217	0	0
21		0					0	0	191	193	0	0
22		0					0	0	180	194	0	0
23		0					0	0	268	245	0	0
24		0					0	0	116	257	0	0
25		0					0	0	48	243	0	0
26		0					0	0	95	298	0	0
27		0					0	15	198	369	0	0
28		0					0	0	310	270	0	0
29		0					0	0	296	214	0	0
30		0			- - - - -		0	0	314	225	0	0
31		- - - - -			- - - - -		- - - - -	0	- - - - -	213		- - - - -
Total	0	294	0	0	0	0	430	15	6,368	6,595	1,263	0
Mean	0	9.8	0	0	0	0	14.3	0.48	212	213	40.7	0
Max	0	91	0	0	0	0	81	15	587	369	251	0
Min	0	0	0	0	0	0	0	0	0	109	0	0
Ac-ft	0	583	0	0	0	0	853	30	12,630	13,080	2,510	0

Cal yr 1966: Total 18,973 Mean 52.0 Max 705 Min 0 Ac-ft 37,630
Wtr yr 1967: Total 14,965 Mean 41.0 Max 587 Min 0 Ac-ft 29,680

11-5095. Klamath River at Keno, Oreg.

Location.--Lat 42°08'00", long 121°57'40", in NW¼SE¼ sec.35, T.39 S., R.7 E., on left bank 1.7 miles northwest of Keno and 4.5 miles upstream from Spencer Creek.

Drainage area.--3,920 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--June 1904 to December 1913, October 1929 to September 1967. Monthly discharge only October to December 1929, published in WSP 1315-B.

Gage.--Digital water-stage recorder. Datum of gage is 3,961 ft above mean sea level (from river-profile survey). June 1, 1904, to Dec. 31, 1913, staff or hook gage at site 2 miles upstream at different datum. Oct. 1, 1929, to Sept. 30, 1931, graphic water-stage recorder at site 20 ft downstream at datum 2.72 ft higher and Oct. 1, 1931, to July 26, 1932, at datum 0.72 ft higher. July 27, 1932, to Nov. 5, 1954, graphic water-stage recorder at site 5 ft upstream at datum 0.72 ft higher. Nov. 6, 1954, to June 9, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--47 years, 1,677 cfs (1,214,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,070 cfs May 14 (gage height, 10.34 ft); minimum, 188 cfs July 20; minimum daily, 285 cfs July 20.

1904-13, 1929-67: Maximum discharge, 8,480 cfs Feb. 1, 1965 (gage height, 11.85 ft); minimum, 26 cfs Sept. 23, 1956; minimum daily, 60 cfs May 19, 1934.

Maximum stage known, 15.3 ft, from floodmark (original datum), about May 10, 1904 (discharge, 9,250 cfs).

Remarks.--Records good. Flow regulated by Upper Klamath Lake since 1919 (see sta. no. 5070.). Diversions for irrigation above station. Lost River diversion canal enters or diverts from Klamath River above station (see records for Lost River diversion canal near Olene, sta. no. 4860., and Diversion from Klamath River to Lost River near Olene, preceding page).

Cooperation.--Figures of diversion and pumpage furnished by Bureau of Reclamation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	699	1,490	1,940	2,530	2,150	1,990	668	2,950	2,980	296	292	1,060
2	1,030	1,490	1,940	2,530	2,250	1,990	349	2,940	2,860	297	292	1,290
3	1,030	1,510	1,930	2,550	2,380	1,720	873	2,930	2,780	298	292	1,300
4	1,080	1,350	1,930	2,550	2,570	1,250	1,540	2,930	2,780	298	292	1,300
5	1,250	1,510	2,270	2,530	2,570	1,060	1,540	2,730	2,790	298	291	1,300
6	1,430	1,510	2,490	2,520	2,550	1,070	1,540	2,600	2,370	297	291	1,380
7	1,420	1,510	2,460	2,560	2,540	1,080	1,540	2,600	1,560	298	290	1,390
8	1,430	1,540	2,510	2,500	2,550	1,200	942	2,380	1,180	298	454	1,380
9	1,410	1,560	2,540	2,490	2,570	1,280	572	2,090	1,190	297	770	1,310
10	1,410	1,560	2,540	2,490	2,590	1,290	1,250	2,240	848	297	906	1,300
11	1,440	1,560	2,540	2,500	2,590	1,290	1,680	2,580	396	295	905	1,300
12	1,450	1,540	2,530	2,420	2,590	1,290	1,680	3,980	405	293	630	1,300
13	1,470	1,540	2,540	2,430	2,580	1,280	1,680	5,600	331	292	395	1,300
14	1,510	1,540	2,540	2,470	2,580	1,280	1,460	5,910	293	293	671	1,300
15	1,510	1,550	2,560	2,480	2,580	1,280	1,050	5,210	308	295	982	1,300
16	1,490	1,550	2,590	2,470	2,600	1,280	540	4,350	307	294	1,050	1,290
17	1,490	1,520	2,580	2,470	2,600	2,870	967	4,110	308	294	1,050	1,290
18	1,490	1,510	2,570	2,490	2,600	3,470	2,050	3,490	310	294	1,050	1,290
19	1,510	1,510	2,580	2,440	2,610	863	2,460	3,060	310	294	664	1,290
20	1,490	1,500	2,590	2,650	2,610	629	2,510	3,060	307	285	401	1,110
21	1,510	1,500	2,590	2,230	2,610	954	2,510	3,060	305	295	458	1,100
22	1,510	1,510	2,590	2,230	2,610	911	2,560	3,060	304	295	672	1,110
23	1,520	1,140	2,550	2,440	2,530	883	2,610	2,690	297	295	900	898
24	1,510	651	2,520	2,530	2,470	885	2,640	2,510	301	293	899	715
25	1,520	653	2,540	2,490	2,460	878	2,750	2,830	301	292	434	1,070
26	1,520	827	2,540	2,390	2,460	874	2,800	3,250	300	292	401	1,080
27	1,520	966	2,540	2,060	2,470	978	2,870	3,360	299	291	401	1,080
28	1,510	1,520	2,500	2,100	2,200	1,070	2,950	3,370	298	291	401	912
29	1,520	1,960	2,580	2,270	------	1,070	2,950	3,370	297	292	401	792
30	1,520	1,940	2,640	2,130	------	1,070	2,950	3,370	297	292	401	411
31	1,510	------	2,540	2,080	------	1,070	------	3,150	------	292	401	------
TOTAL	43,709	43,017	76,280	75,020	70,470	40,105	54,481	101,760	27,612	9,123	17,737	34,938
MEAN	1,410	1,434	2,461	2,420	2,517	1,294	1,816	3,283	920	294	572	1,165
MAX	1,520	1,960	2,640	2,650	2,610	3,470	2,950	5,910	2,980	298	1,050	1,380
MIN	699	651	1,930	2,060	2,150	629	349	2,090	293	285	290	411
AC-FT	86,700	85,320	151,300	148,800	139,800	79,550	108,100	201,800	54,770	18,100	35,180	69,300
(†)	3,052	3,308	10,230	10,630	8,807	1,951	87	3,309	6,564	13,500	14,110	5,659
(‡)	1,450	8,136	15,650	15,220	12,100	17,380	7,283	17,960	4,336	2,892	4,495	6,545

CAL YR 1966: TOTAL 411,920 MEAN 1,129 MAX 2,640 MIN 262 AC-FT 817,000
WAT YR 1967: TOTAL 594,252 MEAN 1,628 MAX 5,910 MIN 285 AC-FT 1,179,000

† Diversion, in acre-ft, through Midland Canal to Klamath Drainage District and through Klamath Strait into Lower Klamath Lake.
‡ Pumpage, in acre-ft, into Klamath River at Ady.

11-5107. Klamath River below John C. Boyle powerplant, near Keno, Oreg.

Location.--Lat 42°05'05", long 122°04'20", in SE¼SE¼ sec.14, T.40 S., R.6 E., on right bank 0.7 mile downstream from John C. Boyle powerplant, 8 miles downstream from Spencer Creek, and 8.5 miles southwest of Keno.

Drainage area.--4,080 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--January 1959 to September 1967. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

Gage.--Digital water-stage recorder. Datum of gage is 3,274.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1956 (levels by Pacific Power & Light Co.). Prior to June 10, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--8 years, 1,780 cfs (1,289,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,270 cfs May 13 (gage height, 7.51 ft); minimum, 329 cfs Nov. 27; minimum daily, 356 cfs Aug. 12, 20.

1959-67: Maximum discharge, 8,830 cfs Feb. 1, 1965 (gage height, 8.55 ft); minimum, 311 cfs Sept. 7, 1964; minimum daily, 326 cfs Aug. 15, 30, 1964.

Remarks.--Records excellent. Flow regulated by Upper Klamath Lake (see sta. no. 5070.). Large diurnal fluctuation caused by John C. Boyle powerplant and 2 powerplants below Upper Klamath Lake. Large diversions for irrigation above station (see Remarks for station at Keno, sta. no. 5095).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	721	1,800	2,250	2,780	2,470	2,270	507	3,100	3,210	384	596	1,330
2	718	1,820	2,210	2,780	2,470	2,260	541	3,120	3,130	403	561	1,520
3	1,480	1,770	2,250	2,780	2,830	2,330	1,380	3,060	3,030	738	570	1,520
4	1,310	1,510	2,220	2,810	2,820	1,570	1,810	3,100	3,040	435	522	1,530
5	1,440	1,740	2,360	2,830	2,820	1,300	1,810	2,840	3,000	727	373	1,520
6	1,440	1,640	2,740	2,810	2,560	1,260	1,890	2,840	2,830	738	376	1,530
7	1,970	1,890	2,640	2,810	2,840	1,280	2,040	2,840	1,910	504	600	1,540
8	1,510	1,830	2,690	2,830	2,830	1,360	1,050	2,790	1,540	374	773	1,530
9	1,520	1,830	2,710	2,720	2,830	1,540	534	2,520	1,660	377	1,050	1,530
10	2,000	1,830	2,730	2,830	2,830	1,720	1,600	2,770	1,020	493	1,200	1,530
11	1,540	1,830	2,730	2,830	2,830	1,680	2,050	2,850	450	633	1,180	1,530
12	1,520	1,830	2,730	2,720	2,830	1,610	2,080	3,640	935	383	356	1,530
13	1,520	1,820	2,720	2,650	2,830	1,460	2,070	5,480	797	726	478	1,530
14	2,160	1,820	2,750	2,800	2,830	1,450	1,890	5,980	710	688	1,370	1,530
15	1,420	1,670	2,740	2,730	2,840	1,580	757	5,390	678	374	1,230	1,530
16	1,500	1,840	2,770	2,730	2,840	1,510	784	4,500	802	367	1,230	1,530
17	2,430	1,790	2,770	2,750	2,840	2,400	1,510	4,260	374	688	1,290	1,530
18	1,520	1,830	2,750	2,300	2,830	4,080	2,140	3,730	370	598	1,500	1,530
19	1,840	1,690	2,770	2,830	2,830	1,190	2,780	3,310	665	567	670	1,530
20	1,680	1,920	2,770	2,830	2,830	890	2,820	3,260	632	540	356	1,520
21	1,530	1,480	2,750	2,460	2,840	1,260	2,820	3,310	616	688	875	1,530
22	1,830	1,720	2,790	2,530	2,840	1,240	2,820	3,290	665	377	1,030	1,470
23	1,520	1,470	2,790	2,820	2,780	1,190	2,820	3,090	595	370	1,030	1,140
24	2,270	735	2,730	2,820	2,710	1,240	2,790	2,820	373	616	1,030	1,060
25	1,690	1,100	2,750	2,840	2,710	1,240	2,880	3,110	378	666	1,080	1,230
26	1,820	1,040	2,750	2,750	2,700	977	2,990	3,450	606	630	369	1,440
27	1,810	903	2,720	2,420	2,700	1,370	3,030	3,500	715	551	485	1,140
28	1,810	1,980	2,680	2,180	2,630	1,460	3,120	3,490	642	560	952	1,140
29	1,810	2,200	2,730	2,670	------	1,500	3,070	3,530	607	369	742	1,140
30	1,710	2,250	2,770	2,510	------	1,460	3,110	3,510	629	371	555	815
31	1,790	------	2,750	2,460	------	1,370	------	3,340	------	724	725	------
TOTAL	50,829	50,378	82,510	83,610	77,540	49,047	61,493	107,820	36,609	16,659	25,154	42,475
MEAN	1,640	1,686	2,662	2,697	2,769	1,582	2,050	3,478	1,220	537	811	1,416
MAX	2,430	2,250	2,790	2,840	2,840	4,080	3,120	5,980	3,210	738	1,500	1,540
MIN	718	735	2,210	2,180	2,470	890	507	2,520	370	367	356	815
AC-FT	100,800	100,300	163,700	165,800	153,800	97,280	122,000	213,900	72,610	33,040	49,890	84,250

CAL YR 1966: TOTAL 493,462 MEAN 1,352 MAX 2,790 MIN 373 AC-FT 978,800
WAT YR 1967: TOTAL 684,324 MEAN 1,875 MAX 5,980 MIN 356 AC-FT 1,357,000

11-5165.3. Klamath River below Iron Gate Dam, Calif.

Location.--Lat 41°55'40", long 122°26'35", in E½NE¼ sec.17, T.47 N., R.5 W., on left bank 0.1 mile downstream from Bogus Creek, 0.6 mile downstream from Iron Gate Dam, and 5.9 miles northeast of Hornbrook.

Records Available.--October 1960 to September 1967.

Gage.--Graphic water-stage recorder. Datum of gage is 2,162.44 ft above mean sea level (levels by Pacific Power and Light Co.).

Average discharge.--7 years, 2,151 cfs (1,557,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,890 cfs May 14 (gage height, 6.94 ft); minimum daily, 687 cfs June 23.

1960-67: Maximum discharge, 29,400 cfs Dec. 22, 1964 (gage height, 13.63 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of maximum flow; minimum daily, 647 cfs Nov. 6, 1960, Sept. 24, Oct. 1, 1961.

Remarks.--Records good. Complete regulation by Upper Klamath Lake (capacity, 584,000 acre-ft) and other smaller reservoirs; diversions above station. Records of chemical analyses and water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,310	1,690	1,880	2,300	3,400	2,720	1,780	3,530	3,770	701	1,050	1,310
2	1,320	1,690	1,960	2,270	3,280	2,550	1,770	3,540	3,830	701	1,050	1,310
3	1,310	1,720	2,750	2,660	3,250	2,500	1,760	3,580	3,590	701	1,030	1,320
4	1,310	1,760	3,820	3,050	3,290	1,960	1,760	3,580	3,480	887	1,030	1,320
5	1,320	1,760	4,180	3,050	2,860	1,790	1,770	3,580	3,320	694	1,010	1,310
6	1,320	1,760	3,530	3,050	2,980	1,790	1,780	3,600	3,400	694	1,010	1,310
7	1,320	1,760	3,180	2,890	3,190	1,780	1,780	3,650	2,640	701	1,020	1,310
8	1,310	1,760	3,000	2,860	3,170	1,790	1,790	3,540	1,880	715	1,020	1,310
9	1,310	1,770	2,960	3,040	3,180	1,790	1,780	3,210	2,050	715	1,020	1,310
10	1,320	1,760	3,030	2,930	3,180	1,800	1,780	3,500	1,980	715	1,010	1,310
11	1,480	1,770	3,010	2,840	3,120	2,100	1,780	3,800	1,210	715	1,010	1,320
12	1,680	1,770	3,050	2,890	2,660	1,800	1,790	4,140	1,050	715	1,020	1,310
13	1,730	1,780	3,420	3,070	2,370	1,800	1,800	6,160	792	715	1,010	1,310
14	1,720	1,810	3,040	3,120	3,290	1,810	1,800	6,730	1,010	722	1,010	1,310
15	1,710	1,810	2,750	3,100	3,360	1,820	1,800	6,470	1,050	722	1,010	1,310
16	1,710	1,820	2,680	3,070	3,530	1,990	1,790	5,300	1,050	715	1,020	1,310
17	1,700	1,810	3,100	3,070	3,830	2,350	1,780	5,340	701	715	1,020	1,310
18	1,700	1,820	2,550	3,100	3,680	5,040	1,820	5,080	694	715	1,020	1,310
19	1,700	1,830	3,120	3,140	2,420	2,650	2,820	4,100	701	921	1,010	1,310
20	1,700	1,860	3,210	3,280	3,500	1,810	3,500	4,130	701	782	1,000	1,310
21	1,710	1,840	2,770	3,290	3,620	1,800	3,560	4,190	953	715	1,010	1,310
22	1,710	1,840	3,120	2,510	3,540	1,800	3,540	4,220	946	708	1,010	1,310
23	1,720	1,830	3,190	2,400	3,560	1,810	3,560	4,190	687	708	1,010	1,310
24	1,730	1,840	3,250	3,010	2,580	1,800	3,530	3,780	701	708	1,020	1,310
25	1,720	1,830	3,310	3,170	3,240	1,800	3,530	3,620	701	708	1,020	1,310
26	1,720	1,830	3,310	3,320	3,340	1,800	3,420	4,100	694	715	1,020	1,310
27	1,710	1,830	3,350	3,540	3,400	1,790	3,470	4,180	694	715	1,010	1,310
28	1,710	1,840	3,360	4,140	3,110	1,790	3,580	4,130	701	729	1,000	1,310
29	1,700	1,850	3,360	4,450		1,790	3,560	4,130	701	715	1,000	1,310
30	1,700	1,850	3,360	4,000	- - - - -	1,800	3,560	4,110	701	715	1,000	1,300
31	1,690	- - - - -	2,540	3,470	- - - - -	1,790	- - - - -	3,920	- - - - -	729	1,030	- - - - -
Total	48,800	53,890	95,140	96,080	89,930	63,410	73,740	131,130	46,378	22,526	31,510	39,320
Mean	1,574	1,796	3,069	3,099	3,212	2,045	2,458	4,230	1,546	727	1,016	1,311
Max	1,730	1,860	4,180	4,450	3,830	5,040	3,580	6,730	3,830	921	1,050	1,320
Min	1,310	1,690	1,880	2,270	2,370	1,780	1,760	3,210	687	694	1,000	1,300
Ac-ft	96,790	106,900	188,700	190,600	178,400	125,800	146,300	260,100	91,990	44,680	62,500	77,990

Cal yr 1966 : Total 597,891 Mean 1,638 Max 4,180 Min 656 Ac-ft 1,186,000
Wtr yr 1967 : Total 791,854 Mean 2,169 Max 6,730 Min 687 Ac-ft 1,571,000

12-4728. Columbia River below Priest Rapids Dam, Wash.

Location.--Lat 46°37'45", long 119°51'50", in SE¼NW¼ sec.7, T.13 N., R.24 E., on left bank 2½ miles downstream from Priest Rapids Dam and 14 miles south of Beverly.

Drainage area.--96,000 sq mi, approximately.

Records available.--January 1917 to September 1967. January 1917 to September 1930, at site 3 miles downstream, published as "at Vernita." October 1930 to July 27, 1959, at site 47 miles upstream, published as "at Trinidad."

Gage.--Digital water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1930, staff gages at ferry at Vernita (3 miles downstream) at datum 388.7 ft above mean sea level, unadjusted. Oct. 1, 1930, to July 27, 1959, graphic water-stage recorder at Trinidad (47 miles upstream) at datum 499.3 ft above mean sea level (river-profile survey). July 28, 1959, to June 25, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--50 years, 120,000 cfs (86,880,000 acre-ft per year).

Extremes.--Maximum discharge during year, 506,000 cfs June 26 (elevation, 425.99 ft); minimum, 36,000 cfs Nov. 15 (elevation, 396.22 ft).

1917-67: Maximum discharge, 692,600 cfs June 12, 1948 (gage height, 59.35 ft, site and datum then in use); minimum, 4,120 cfs Feb. 10, 1932 (gage height, 11.40 ft, site and datum then in use).

Maximum discharge known, about 740,000 cfs June 7, 1894 (base on information obtained at other points).

Remarks.--Records excellent. Diversion above station for irrigation of about 500,000 acres is small percentage of flow past gage. Flow regulated by Franklin D. Roosevelt Lake, Rufus Woods Lake, Priest Rapids reservoir, and reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Okanogan, and Chelan River basins.

Discharge, in thousands of cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53.4	62.1	61.5	54.4	54.9	90.9	46	93.5	292	425	183	85.2
2	42.4	75.3	69.2	69.0	67.9	95.0	46.1	82.0	320	417	180	49.3
3	82.3	73.4	63.3	101	52.2	89.0	95.2	86.5	338	424	191	58.8
4	71.7	77.6	65.9	108	45.6	58.2	103	86.9	371	393	181	39.4
5	67.6	49.2	89.8	101	45.9	63.9	115	96.6	387	375	162	86.5
				97.8								
6	80.3	38.8	87.1	66.1	82.7	96.3	103	59.6	409	392	148	93.5
7	66.7	74.3	80.5	41.4	79.9	100	92.6	49.6	435	373	140	104
8	52.5	71.7	64.5	102	86.5	93.3	77.5	75.0	440	354	147	107
9	63.5	74.0	70.5	85.5	90.2	120	70.5	93.9	457	360	125	88.0
10	87.0	57.5	70.3	85.5	85.6	95.3	96.5	103	460	342	102	48.0
11	82.6	58.9	46.5	66.9	73.7	65.1	107	83.4	455	327	108	88.0
12	95.8	50.9	71.3	85.7	63.3	55.1	106	74.6	455	335	104	95.0
13	81.9	44.3	82.0	82.0	89.2	105	85.0	66.3	450	314	92.9	102
14	63.1	64.6	74.2	70.6	109	114	78.5	55.9	452	288	107	93.5
15	40.0	69.2	69.4	58.9	80.7	101	66.0	96.9	471	291	117	88.5
16	38.0	70.8	69.0	90.2	68.5	101	54.5	109	470	273	131	56.0
17	72.6	75.4	58.6	86.2	86.5	99.6	94.0	106	465	273	112	53.0
18	76.3	78.4	44.1	75.6	70.4	68.8	104	97.3	441	272	115	94.5
19	78.1	53.6	84.4	78.7	61.8	76.1	119	112	438	255	108	103
20	77.3	49.4	79.1	70.7	93.0	98.0	108	132	440	242	96.8	103
21	72.9	77.2	91.8	57.6	88.6	84.7	98.0	155	441	229	127	94.0
22	48.2	92.3	90.8	48.4	90.9	76.6	105	175	446	222	111	67.0
23	40.2	80.6	104	93.3	94.6	101	90.5	191	432	213	116	70.2
24	59.3	44.2	60.8	75.7	95.3	93.6	113	226	436	208	126	68.2
25	64.0	53.1	38.1	85.1	55.9	74.0	116	244	459	213	123	99.9
26	71.7	59.9	53.8	76.2	48.8	64.0	111	229	483	202	88.7	85.0
27	75.0	61.0	104	58.9	88.1	94.6	111	259	472	194	78.8	77.7
28	80.4	79.9	98.8	57.1	86.5	88.8	91.5	274	461	203	123	81.2
29	63.1	80.4	79.5	47.5		93.9	74.0	258	462	181	127	106
30	52.1	66.0	87.0	89.6	- - - - -	117	42.5	269	436	169	121	77.8
31	66.6	- - - - -	74.9	66.5	- - - - -	115	- - - - -	285	- - - - -	174	116	- - - - -
Total	2,066.6	1,964.0	2,284.7	2,347.6	2,136.2	2,788.8	2,719.9	4,325.0	12,974	8,933.0	3,908.2	2,463.2
Mean	66.66	65.47	73.70	75.73	76.29	89.96	90.66	139.5	432.5	288.2	126.1	82.11
Max	95.8	92.3	104	108	109	120	119	285	483	425	191	107
Min	38.0	38.8	38.1	41.4	45.6	55.1	42.5	49.6	292	169	78.8	39.4
Ac-ft	4,099	3,896	4,532	4,656	4,237	5,532	5,395	8,579	25,730	17,720	7,752	4,886

Cal yr 1966: Total 42,001.300 Mean 115.1 Max 325 Min 37.6 Ac-ft 83,310
Wtr yr 1967: Total 48,911.300 Mean 134.0 Max 483 Min 38.0 Ac-ft 97,010

All figures expressed in thousands.

SNAKE RIVER MAIN STEM

13-1725. Snake River near Murphy, Idaho

Location.--Lat 43°17'30", long 116°25'12", in SE¼ sec.35, T.1 S., R.1 W., on right bank 4¼ miles downstream from Swan Falls powerplant, 7½ miles northeast of Murphy, and at mile 453.5.

Drainage area.--41,900 sq mi, approximately.

Records available.--August to October 1912, August 1913 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,271.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 7, 1914, staff gage and Sept. 7, 1914, to Sept. 30, 1935, graphic water-stage recorder, at site 3½ miles upstream at datum 9.79 ft higher. Oct. 1, 1935, to Mar. 15, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 24,000 cfs June 20 (gage height, 8.87 ft); minimum, 5,430 cfs Feb. 20 (gage height, 3.15 ft); minimum daily, 6,420 cfs Apr. 22.

1912-67: Maximum discharge, 47,300 cfs June 22, 1918 (gage height, 13.95 ft, site and datum then in use); minimum recorded, 3,900 cfs July 9, 1949 (gage height, 2.53 ft); minimum daily, 5,440 cfs Aug. 4, 1914.

Remarks.--Records excellent. Flow regulated by many reservoirs upstream. Between this station and station at King Hill, flow is regulated at Swan Falls powerplant and C. J. Strike Reservoir (see above) and by gravity and pumping diversions. Diversions for irrigation of about 2,140,000 acres (1960 determination) above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.080	8.680	9.090	7.900	9.060	8.900	7.330	7.520	8.550	15.900	7.130	7.780
2	9.020	9.240	9.210	7.900	9.150	8.220	7.260	8.340	8.610	14.100	7.310	7.270
3	9.050	9.200	9.070	7.600	8.610	9.460	7.860	8.430	8.600	11.300	7.160	7.270
4	9.650	9.170	9.000	8.400	7.930	7.100	9.020	8.000	8.580	10.100	6.920	7.710
5	9.050	9.210	9.030	8.400	8.480	8.150	8.420	7.120	8.860	9.960	6.960	7.780
6	9.620	9.290	8.670	8.400	8.580	7.920	8.380	6.710	9.830	9.760	7.220	7.430
7	8.840	8.970	8.500	8.100	8.230	8.190	8.220	6.970	10.800	9.000	6.930	7.650
8	9.170	9.130	8.660	8.100	7.740	6.930	7.880	6.790	11.100	8.760	7.120	8.210
9	9.250	8.910	8.960	8.100	7.980	7.740	7.430	7.920	11.400	8.970	7.200	8.510
10	8.710	8.600	9.020	8.500	7.480	7.890	9.080	7.480	11.900	9.840	7.270	8.630
11	8.740	9.220	8.740	8.200	8.090	8.120	8.490	6.850	11.700	9.790	7.620	8.190
12	8.970	9.170	8.540	7.780	7.740	7.950	6.600	7.930	11.700	9.900	7.810	8.250
13	9.090	9.340	8.660	8.080	7.560	8.080	8.050	7.340	11.200	8.060	7.140	8.180
14	9.200	9.140	8.660	8.110	8.100	8.680	7.420	7.970	11.200	7.160	7.180	8.520
15	10.100	9.190	8.740	8.300	8.650	8.550	7.860	7.530	10.300	7.410	7.460	8.480
16	9.690	8.990	8.630	8.490	8.550	7.730	6.550	7.040	12.800	6.590	7.090	8.600
17	9.570	8.910	8.530	8.910	7.450	6.790	6.500	7.370	11.100	6.590	7.690	8.880
18	9.630	8.930	8.590	8.590	7.840	7.400	7.320	7.360	11.300	6.560	8.150	8.730
19	9.600	8.770	8.720	8.610	7.390	8.120	7.020	7.390	16.200	6.580	6.730	8.670
20	9.550	9.000	8.730	8.410	7.710	7.720	7.510	7.360	23.000	6.550	7.120	7.870
21	9.360	8.920	8.410	8.280	7.820	8.050	7.400	7.260	22.300	6.720	6.750	8.270
22	9.630	8.860	8.930	8.380	7.590	7.980	6.420	7.200	22.100	6.870	7.020	8.460
23	9.430	8.800	8.780	8.580	7.940	7.960	6.840	7.480	21.200	6.600	7.300	8.630
24	9.750	8.820	8.510	10.800	8.270	8.070	6.930	8.880	17.800	6.800	7.630	9.190
25	9.650	8.670	8.130	9.170	7.440	7.490	7.940	9.550	18.200	7.110	7.070	9.090
26	9.860	8.790	7.770	9.030	8.050	7.390	6.680	9.490	14.400	6.560	7.280	7.350
27	9.750	8.530	8.100	8.820	8.360	7.860	7.230	8.950	14.000	6.940	6.880	8.880
28	9.520	8.620	8.600	8.810	8.670	9.670	7.110	7.950	13.600	6.880	7.410	8.290
29	9.560	8.740	8.600	8.660		8.080	7.040	8.720	12.900	6.680	7.490	8.340
30	9.530	8.840	8.300	8.450	- - - - -	8.250	7.470	8.890	14.000	6.730	7.780	8.680
31	9.010	- - - - -	8.300	8.870	- - - - -	7.870	- - - - -	8.330	- - - - -	6.640	7.760	- - - - -
Total	290.630	268.650	268.180	262.730	226.460	248.310	225.260	242.120	399.230	257.410	225.580	247.790
Mean	9,375	8,955	8,651	8,475	8,088	8,010	7,509	7,810	13,310	8,304	7,277	8,260
Max	10,100	9,340	9,210	10,800	9,150	9,670	9,080	9,550	23,000	15,900	8,150	9,190
Min	8,710	8,530	7,770	7,600	7,390	6,790	6,420	6,710	8,550	6,550	6,730	7,270
Ac-ft	576,500	532,900	531,900	521,100	449,200	492,500	446,800	480,200	791,900	510,600	447,400	491,500

Cal yr 1966: Total 3,477,460 Mean 9,527 Max 18,500 Min 6,210 Ac-ft 6,897,000
Wtr yr 1967: Total 3,162,350 Mean 8,664 Max 23,000 Min 6,420 Ac-ft 6,272,000

13-1780. Jordan Creek above Lone Tree Crcek, near Jordan Valley, Oreg.

Location.--Lat 42°52'27", long 116°57'12", in SW¼NE¼ sec.29, T.6 S., R.5 W. (Boise meridian), on right bank 0.2 mile upstream from Morgan-Ranchhouse, 0.9 mile downstream from proposed damsite, 1.4 miles downstream from Williams Creek, 3.6 miles upstream from Lone Tree Creek, 4 miles east of the Idaho-Oregon State line, 9 miles southeast of Jordan Valley, and at mile 54.4.

Drainage area.--440 sq mi, approximately. Mean altitude, 5,780 ft. At site prior to April 1955, 450 sq mi, approximately.

Records available.--April 1955 to September 1967. October 1945 to January 1953 at site 1.6 miles downstream; records equivalent except during late summer months when considerable difference may result from irrigation and return flow between sites.

Gage.--Water-stage recorder. Datum of gage is 4,499.73 ft above mean sea level, unadjusted. Prior to June 14, 1952, water-stage recorder, and June 14, 1952, to Jan. 31, 1953, staff gage, at site 1.6 miles downstream at different datum. Apr. 23, 1955, to Jan. 31, 1965, water-stage recorder at site 0.4 mile upstream at datum 5.73 ft higher. Wire-weight gage at site 3.6 miles downstream at datum 4,404.78 ft above mean sea level, datum of 1963, supplementary adjustment of 1964, used as supplementary gage Feb. 3 to Aug. 31, 1965.

Average discharge.--19 years (1945-52, 1955-67), 186 cfs (134,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs May 18 (gage height, 7.52 ft); minimum, 1.4 cfs Oct. 1-7 (gage height, 3.69 ft).

1945-53, 1955-67: Maximum discharge, 7,530 cfs Dec. 24, 1964 (gage height, 11.05 ft, site and datum then in use), from rating curve extended above 4,210 cfs; no flow part of each day Oct. 4, 5, 1948.

Remarks.--Records fair except those for November to April 15, which are poor. Diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	4.8	22	26	215	115	140	283	942	133	19	3.0
2	1.4	10	27	26	180	135	132	267	784	123	17	3.5
3	1.4	11	34	27	160	113	135	267	646	120	17	2.9
4	1.4	9.9	30	28	150	105	150	304	602	120	15	2.7
5	1.4	10	32	30	135	105	175	384	646	106	14	2.7
6	1.4	13	30	28	120	108	180	548	1,180	104	13	3.0
7	1.4	14	26	28	118	113	190	942	1,280	92	11	4.3
8	1.5	13	25	28	110	115	200	1,270	1,290	86	10	5.3
9	1.6	13	17	28	120	118	210	1,490	1,190	90	9.4	5.5
10	1.6	13	26	28	112	117	220	1,340	1,100	80	9.4	5.3
11	1.6	14	27	29	96	112	230	934	982	68	9.1	5.8
12	1.6	18	26	30	105	110	250	692	835	66	9.1	6.0
13	1.7	20	28	32	102	105	270	559	748	56	7.8	5.8
14	1.8	18	35	47	100	100	264	474	666	53	4.3	4.5
15	3.3	17	30	53	88	100	275	583	602	49	3.8	4.5
16	3.3	19	25	46	100	110	384	926	554	41	2.7	4.0
17	3.3	22	24	40	100	150	338	1,380	519	44	2.7	4.0
18	3.5	18	26	30	105	170	320	1,670	496	32	2.7	4.8
19	3.5	16	28	32	80	178	300	1,320	448	40	2.7	5.8
20	3.5	15	30	210	72	180	283	1,380	427	38	2.6	5.5
21	3.5	16	27	330	76	180	267	1,320	474	36	2.6	6.0
22	3.8	17	25	660	82	190	252	1,290	393	32	2.4	6.0
23	4.0	16	23	370	84	210	264	1,430	334	27	2.4	4.3
24	3.8	14	24	270	88	220	287	1,240	287	22	2.4	3.5
25	3.5	13	25	260	98	200	325	1,140	260	20	2.4	3.5
26	3.0	14	24	270	96	190	334	1,040	245	21	2.4	3.3
27	3.0	13	24	234	98	170	325	888	234	18	2.4	3.3
28	3.0	14	23	393	108	175	342	713	234	19	2.4	3.3
29	2.7	17	23	633		180	329	727	209	19	2.4	3.3
30	3.5	20	24	398	- - - - -	155	300	706	186	20	2.4	3.3
31	5.3	- - - - -	25	280	- - - - -	150	- - - - -	699	- - - - -	21	2.6	- - - - -
Total	80.7	442.7	815	4,924	3,098	4,479	7,671	28,206	18,793	1,796	209.1	128.7
Mean	2.60	14.8	26.3	159	111	144	256	910	626	57.9	6.75	4.29
Max	5.3	22	35	660	215	220	384	1,670	1,290	133	19	6.0
Min	1.4	4.8	17	26	72	100	132	267	186	18	2.4	2.7
Ac-ft	160	878	1,620	9,770	6,140	8,880	15,220	55,950	37,280	3,560	415	255

Cal yr 1966 : Total 25,225.1 Mean 69.1 Max 786 Min 1.4 Ac-ft 50,030
Wtr yr 1967 : Total 70,643.2 Mean 194 Max 1,670 Min 1.4 Ac-ft 140,100

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	1730	6.66	1,130	5-18	0200	7.52	1,950
5-10	0230	7.51	1,740	6- 6	1530	6.99	1,470

13-1810. Owyhee River near Rome, Oreg.

Location.--Lat 42°52'00", long 117°39'00", in SE¼NE¼ sec.14, T.31 S., R.41 E., on right bank 0.5 mile downstream from Jordan Creek, 2.6 miles north of Rome, and at mile 117.0.

Drainage area.--About 8,000 sq mi.

Records available.--October 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 3,344.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Feb. 10, 1960, at datum 0.24 ft lower.

Average discharge.--18 years, 820 cfs (593,700 acre-ft per year).

Extremes.--Maximum discharge during year, 5,640 cfs June 10 (gage height, 7.35 ft); minimum, 80 cfs Oct. 1, 2.

1949-67: Maximum discharge, 33,500 cfs Dec. 24, 1964 (gage height, 16.7 ft, from floodmark); minimum, 42 cfs Aug. 12, 1954, July 28, Aug. 5, 1961.

Remarks.--Records good. Flow regulated by Antelope Reservoir (capacity, 55,000 acre-ft), Wild Horse Reservoir (capacity, 32,690 acre-ft), and numerous small reservoirs. Diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	111	198	150	1,840	564	734	1,100	2,370	544	172	97
2	84	109	178	160	1,200	716	654	980	2,700	500	168	88
3	88	109	188	162	865	734	582	985	3,070	504	162	88
4	88	109	207	168	721	654	672	955	2,190	500	162	91
5	86	109	207	168	613	522	1,040	1,060	1,700	480	160	97
6	84	122	207	160	550	442	1,860	1,220	2,720	440	162	106
7	84	120	240	160	494	378	2,530	1,380	3,520	412	160	113
8	88	120	225	168	434	362	1,520	1,640	3,880	384	165	118
9	92	120	264	152	374	398	1,540	1,810	4,220	402	162	102
10	92	124	252	160	354	478	1,370	2,040	4,930	374	152	97
11	90	127	237	165	336	600	1,500	2,150	3,840	342	142	95
12	90	131	195	168	326	712	1,480	2,060	2,880	342	148	99
13	94	136	198	172	346	608	1,380	1,840	2,320	314	152	106
14	96	134	201	172	478	510	1,690	1,570	2,160	282	140	104
15	96	136	198	185	1,060	458	1,550	1,350	2,040	258	130	108
16	100	138	204	190	820	418	1,140	1,340	1,780	243	128	104
17	100	138	190	195	586	450	890	1,400	1,480	258	123	106
18	100	138	152	175	466	1,200	757	1,570	1,290	252	125	116
19	100	138	160	170	478	1,860	766	1,840	1,210	234	130	145
20	100	131	155	182	422	1,720	744	2,000	1,120	234	135	135
21	102	129	150	201	410	1,500	694	2,130	1,080	282	130	125
22	107	129	152	246	350	1,520	694	2,110	1,070	261	125	118
23	109	122	150	506	322	1,920	811	2,080	1,110	234	116	111
24	111	120	136	486	315	2,190	1,060	2,080	1,060	228	111	111
25	111	120	150	458	322	1,950	1,850	2,160	940	231	106	106
26	111	115	152	446	378	1,560	1,520	2,060	1,000	219	108	104
27	109	115	145	402	506	1,210	1,180	1,890	855	195	104	106
28	109	127	134	414	534	1,040	1,040	1,650	743	198	104	108
29	111	124	129	907		1,170	1,140	1,570	652	189	102	113
30	111	143	143	2,590	- - - - -	1,100	1,150	1,520	592	183	102	113
31	111	- - - - -	138	3,070	- - - - -	895	- - - - -	1,820	- - - - -	170	99	- - - - -
Total	3,034	3,744	5,635	13,108	15,900	29,839	35,538	51,360	60,522	9,689	4,185	3,230
Mean	97.9	125	182	423	568	962	1,185	1,657	2,017	313	135	108
Max	111	143	264	3,070	1,840	2,190	2,530	2,160	4,930	544	172	145
Min	80	109	129	150	315	362	582	955	592	170	99	88
Ac-ft	6,020	7,430	11,180	26,000	31,540	59,180	70,490	101,900	120,000	19,220	8,300	6,410

Cal yr 1966: Total 102,720 Mean 281 Max 3,300 Min 57 Ac-ft 203,700
Wtr yr 1967: Total 235,784 Mean 646 Max 4,930 Min 80 Ac-ft 467,700

Peak discharge (base, 5,400 cfs).--June 10 (1400 hrs) 5,640 cfs (7.35 ft).

13-1825. Lake Owyhee near Nyssa, Oreg.

Location.--Lat 43°38'30", long 117°14'40", in sec.20, T.22 S., R.45 E., near left abutment on Owyhee Dam on Owyhee River, 21 miles southwest of Nyssa, and at mile 27.8.

Drainage area.--11,160 sq mi, approximately.

Records available.--October 1932 to September 1967. Prior to October 1958, published as Owyhee Reservoir at Owyhee Dam, near Nyssa.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1965, staff gage at same site and datum.

Extremes.--Maximum contents during year, 956,200 acre-ft June 20 (elevation, 2,656.20 ft); minimum, 663,300 acre-ft Oct. 15 (elevation, 2,626.22 ft).

1932-67: Maximum contents observed, 1,140,000 acre-ft Apr. 15, 1952 (elevation, 2,671.40 ft); minimum observed, since full capacity was attained on May 7, 1936, 437,100 acre-ft Oct. 1, 1961 (elevation, 2,595.35 ft).

Remarks.--Reservoir is formed by concrete arch-gravity dam, completed in September 1932; storage began Oct. 16, 1932. Capacity, 1,122,000 acre-ft between elevations 2,367.5 (bottom of sluice gates) and 2,670.0 ft (top of spillway gate), 715,000 acre-ft between elevations 2,590.2 (diversion tunnel) and 2,670.0 ft. Dead storage below elevation 2,367.5 ft negligible. Figures given herein are contents above elevation 2,367.5 ft. Reservoir generally will not be drawn below elevation 2,590.2 ft. Water is released through diversion tunnel to South Canal for irrigation of lands west of Snake River in vicinity of Homedale, Idaho, and to North Canal for irrigation of lands north and west of Owyhee River, and through sluice gates to river for Owyhee Canal, which diverts about 18 miles downstream.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,627.82	676,900	-
Oct. 31	2,627.01	670,000	-6,900
Nov. 30	2,628.59	683,600	+13,600
Dec. 31	2,630.65	701,500	+17,900
Calendar year 1966	-	-	-254,800
Jan. 31	2,634.03	731,700	+30,200
Feb. 28	2,638.32	771,300	+39,600
Mar. 31	2,644.39	830,400	+59,100
Apr. 30	2,647.94	866,700	+36,300
May 31	2,650.02	888,600	+21,900
June 30	2,655.52	948,600	+60,000
July 31	2,648.32	870,700	-77,900
Aug. 31	2,640.78	794,800	-75,900
Sept. 30	2,635.15	741,900	-52,900
Water year 1966-67	-	-	+65,000

† Elevation at 2400 hrs.

13-1830. Owyhee River below Owyhee Dam, Oreg.

Location.--Lat 43°39'10", long 117°15'00", in SW¼ sec.17, T.22 S., R.45 E., on left bank 0.8 mile downstream from Owyhee Dam, 20 miles southwest of Nyssa, and at mile 27.0.

Drainage area.--11,160 sq mi, approximately.

Records available.--February 1929 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 2,343.67 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--35 years (1932-67), 312 cfs (225,900 acre-ft per year), not adjusted for storage or diversion.

Extremes.--Maximum discharge during year, 200 cfs Apr. 3 (gage height, 1.45 ft); minimum, 2.2 cfs Feb. 8-13.

1929-67: Maximum discharge, 22,900 cfs Apr. 15, 1952 (gage height, 15.7 ft); no flow for part of Aug. 8, 9, 1932, when temporary diversion tunnel at Owyhee Dam was closed.

Remarks.--Records good. Flow regulated by Lake Owyhee since October 1932 (see sta. no. 1825), and by many smaller reservoirs. Diversion of 505,200 acre-ft from Lake Owyhee during the year for irrigation of lands below station and outside the basin. Many smaller diversions for irrigation above station.

Cooperation.--Water-stage recorder inspected and 2 discharge measurements made by irrigation district employees.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	3.0	3.0	2.7	2.6	2.7	3.4	68	76	92	65	71
2	27	3.2	2.7	2.7	2.4	2.7	5.6	75	71	92	65	72
3	26	3.2	2.7	2.7	2.4	2.7	72	77	71	93	65	73
4	24	3.2	2.7	2.7	2.4	2.7	93	77	84	93	65	72
5	20	3.2	2.7	2.7	2.4	2.6	93	85	90	93	59	72
6	20	3.6	2.7	2.7	2.4	2.6	93	90	104	93	57	66
7	20	3.6	2.7	2.7	2.4	2.6	86	90	114	98	57	65
8	20	3.4	2.7	2.7	2.2	2.6	78	96	116	102	57	65
9	20	3.0	2.7	2.6	2.2	2.6	78	108	114	102	57	65
10	10	3.0	2.7	2.6	2.2	2.6	78	122	114	102	57	106
11	2.7	3.0	2.7	2.6	2.2	2.7	79	124	114	104	51	129
12	2.6	3.0	2.7	2.6	2.2	2.7	72	112	122	104	48	117
13	2.6	3.0	2.7	2.6	2.2	2.7	68	110	132	104	49	112
14	2.6	3.0	2.7	2.6	2.4	2.7	67	110	146	102	49	102
15	2.6	3.0	2.7	2.6	2.4	2.7	67	110	160	93	105	98
16	2.6	3.0	2.7	2.6	2.4	2.7	67	110	172	91	124	92
17	2.6	3.0	2.7	2.6	2.4	2.7	68	116	180	91	124	90
18	2.6	3.0	2.7	2.6	2.4	2.7	74	122	122	90	118	90
19	2.4	3.0	2.7	2.6	2.6	2.7	77	122	93	90	111	96
20	2.6	3.0	2.7	2.6	2.6	2.7	72	130	93	90	108	100
21	2.7	3.0	2.7	2.6	2.6	2.7	68	135	85	84	110	100
22	2.8	3.0	2.7	2.6	2.6	2.8	68	142	70	80	101	101
23	2.7	3.0	2.7	2.6	2.6	2.8	69	158	66	80	97	102
24	2.6	3.0	2.7	2.6	2.6	2.8	78	141	66	80	92	101
25	2.7	2.8	2.7	2.6	2.6	2.8	84	129	66	80	88	101
26	2.7	2.8	2.7	2.6	2.6	3.0	82	122	76	80	90	102
27	2.7	2.8	2.7	2.6	2.6	3.0	82	118	82	80	90	105
28	2.7	2.8	2.7	2.6	2.6	3.2	73	118	82	80	86	105
29	2.7	3.0	2.7	2.6	- - - - -	3.4	68	118	82	70	75	106
30	2.7	3.0	2.7	2.6	- - - - -	3.4	68	101	88	65	71	112
31	3.0	- - - - -	2.7	2.6	- - - - -	3.4	- - - - -	91	- - - - -	65	72	- - - - -
Total	266.9	91.6	84.0	81.4	68.2	86.7	2,131.0	3,427	3,051	2,763	2,463	2,788
Mean	8.61	3.05	2.71	2.63	2.44	2.80	71.0	111	102	89.1	79.5	92.9
Max	27	3.6	3.0	2.7	2.6	3.4	93	158	180	104	124	129
Min	2.4	2.8	2.7	2.6	2.2	2.6	3.4	68	66	65	48	65
Ac-ft	529	182	167	161	135	172	4,230	6,800	6,050	5,480	4,890	5,530

Adjusted for diversions from Lake Owyhee and change in lake contents

Mean	198	232	294	494	716	1,019	1,283	1,722	2,082	330	151	194
Ac-ft	12,210	13,780	18,070	30,360	39,740	62,650	76,360	105,900	123,900	20,300	9,270	11,520

	Observed								Adjusted		
Cal yr 1966:	Total	19,226.6	Mean	52.7	Max	196	Min	2.4	Ac-ft	38,140	Mean 348	Ac-ft 252,200
Wtr yr 1967:	Total	17,301.8	Mean	47.4	Max	180	Min	2.2	Ac-ft	34,320	Mean 724	Ac-ft 524,100

13-2140. Malheur River near Drewsey, Oreg.

Location.--Lat 43°47', long 118°20', in SE¼ sec.31, T.20 S., R.36 E., on left bank 300 ft downstream from bridge on U. S. Highway 20, 0.5 mile downstream from Cottonwood Creek, 3.0 miles southeast of Drewsey, and at mile 126.

Drainage area.--910 sq mi, approximately.

Records available.--June 1920 to September 1921, November, December 1921, March, April 1922, April to September 1923, June 1926 to September 1967. Monthly discharge only for some periods, published in WSP 1317. March to September 1914 at site 13 miles upstream; records not equivalent owing to inflow from several creeks.

Gage.--Water-stage recorder. Datum of gage is 3,479.13 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 27, 1923, water-stage recorder or staff gage at site half a mile downstream at different datum. Apr. 27, 1923, to June 6, 1939, water-stage recorder at site 7 miles downstream at different datum.

Average discharge.--41 years (1926-67), 174 cfs (126,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,320 cfs Jan. 29 (gage height, 10.44 ft); minimum, 1.8 cfs Oct. 1.

1920-23, 1926-67: Maximum discharge, 12,000 cfs Dec. 23, 1964 (gage height, 13.50 ft), from rating curve extended above 4,500 cfs on basis of contracted-opening measurement at gage height 13.20 ft; no flow at times.

Remarks.--Records good. Slight regulation by 13 small reservoirs above station (combined capacity, 5,700 acre-ft). Diversions for irrigation of about 13,000 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.1	42	86	60	328	244	294	274	360	57	14	2.7
2	2.4	42	122	70	276	290	314	286	362	45	16	2.7
3	2.4	42	132	79	250	196	332	330	290	51	16	3.0
4	3.0	42	143	88	240	164	342	415	258	41	11	3.3
5	3.8	42	270	88	260	153	358	480	262	34	10	3.3
6	4.4	44	204	85	208	150	342	510	304	32	9.0	3.3
7	4.7	51	138	82	190	167	362	564	288	27	5.8	3.3
8	5.0	45	122	72	178	167	412	663	254	26	5.4	3.0
9	5.8	44	77	67	167	184	447	741	250	23	5.0	3.0
10	6.6	43	94	71	170	186	453	934	256	22	5.0	3.3
11	7.0	58	103	76	159	238	477	975	240	20	4.7	3.6
12	10	70	107	78	154	200	483	783	228	18	4.7	3.8
13	13	78	140	89	184	184	504	648	228	18	4.7	3.8
14	14	90	444	95	166	169	486	561	208	20	4.4	4.1
15	14	86	262	100	140	151	441	525	190	20	3.8	4.1
16	14	85	175	98	137	232	402	534	169	18	3.3	4.4
17	14	110	135	96	156	708	392	567	161	21	3.0	6.2
18	14	78	114	91	177	516	368	606	166	23	2.7	3.0
19	21	67	114	88	159	398	348	633	170	23	2.7	3.0
20	22	68	107	84	128	350	312	618	178	22	2.7	3.0
21	37	114	89	80	114	477	302	582	214	20	2.7	3.0
22	22	99	60	75	137	426	296	549	258	24	2.7	3.0
23	27	88	50	70	138	405	312	540	224	25	2.7	3.0
24	34	56	48	66	159	390	332	519	180	24	2.7	3.0
25	36	59	45	77	176	340	348	480	167	22	3.0	3.5
26	33	56	42	94	176	316	362	429	162	22	3.3	4.0
27	32	62	40	104	188	304	362	372	137	19	3.3	5.0
28	34	65	40	378	226	314	345	330	118	16	3.3	6.2
29	40	72	42	1,810		316	312	328	109	19	3.3	7.8
30	40	78	45	1,530	- - - - -	280	296	312	84	18	3.3	7.8
31	39	- - - - -	50	472	- - - - -	286	- - - - -	320	- - - - -	17	3.0	- - - - -
Total	557.2	1,976	3,640	6,413	5,141	8,901	11,136	16,408	6,475	787	167.2	116.2
Mean	18.0	65.9	117	207	184	287	371	529	216	25.4	5.39	3.87
Max	40	114	444	1,810	328	708	504	975	362	57	16	7.8
Min	2.1	42	40	60	114	150	294	274	84	16	2.7	2.7
Ac-ft	1,110	3,920	7,220	12,720	10,200	17,650	22,090	32,540	12,840	1,560	332	230

Cal yr 1966: Total 31,596.90 Mean 86.6 Max 664 Min .80 Ac-ft 62,670
Wtr yr 1967: Total 61,717.6 Mean 169 Max 1,810 Min 2.1 Ac-ft 122,400

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	2300	10.44	3,320				
3-17	0830	6.58	822				
5-10	2200	7.07	1,030				

13-2145. Warmsprings Reservoir near Riverside, Oreg.

Location.--Lat 43°35', long 118°12', in SE¼ sec.8, T.23 S., R.37 E., near right end of dam on Malheur River, 3 miles northwest of Riverside, 4 miles upstream from South Fork, and at mile 108.

Drainage area.--1,100 sq mi, approximately.

Records available.--January 1920 to October 1929, December 1929 to September 1967.

Gage.--Water-stage recorder. Prior to May 29, 1964, wire-weight gage read daily or weekly. Datum of gage is 3,327.0 ft above mean sea level (levels by Bureau of Reclamation); gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum contents during year, 139,900 acre-ft June 15 (elevation, 3,394.09 ft); minimum, 32,180 acre-ft Oct. 13, 14 (elevation, 3,358.56 ft).

1920-67: Maximum contents, 196,100 acre-ft Apr. 16, May 13, 1958 (elevation, 3,407.10 ft); no contents Sept. 18 to Nov. 1, 1929, Aug. 26 to sometime in November 1935, Sept. 18 to Oct. 11, 1950.

Remarks.--Records good. Reservoir is formed by concrete-arch dam. Storage began in 1919. Capacity, 191,000 acre-ft between elevations 3,327.0 (bottom of outlet tunnel) and 3,406.0 (top of flashboards). Dead storage, 1,400 acre-ft below elevation 3,327.0 ft, not included in records. Water used to irrigate lands on both sides of river between Namorf and Ontario.

There are several other reservoirs in the Malheur River basin, all with less than 3,500 acre-ft capacity except Willow Creek No. 3 Reservoir near Malheur, which has a capacity of 49,000 acre-ft, now limited to 14,000 acre-ft.

Cooperation.--Data for computing capacity table furnished by Bureau of Reclamation.

Month-end elevations and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,359.01	33,120	-
Oct. 31	3,359.04	33,180	+60
Nov. 30	3,361.25	37,980	+4,800
Dec. 31	3,365.13	47,220	+9,240
Calendar year 1966	-	-	-92,680
Jan. 31	3,371.48	64,390	+17,170
Feb. 28	3,375.43	76,130	+11,740
Mar. 31	3,381.75	96,180	+20,050
Apr. 30	3,387.87	116,800	+20,620
May 31	3,392.81	134,900	+18,100
June 30	3,393.05	135,800	+900
July 31	3,383.85	103,100	-32,700
Aug. 31	3,375.58	76,600	-26,500
Sept. 30	3,370.82	62,500	-14,100
Water year 1966-67	-	-	+29,380

† Elevation at 2400 hrs.

13-2150. Malheur River below Warmsprings Reservoir, near Riverside, Oreg.

Location.--Lat 43°34', long 118°12', in SW¼ sec.17, T.23 S., R.37 E., on left bank 1.0 mile downstream from Warmsprings Dam, 3.0 miles upstream from South Fork, 4.0 miles northwest of Riverside, and at mile 107.

Drainage area.--1,100 sq mi, approximately.

Records available.--January 1906 to March 1907 and December 1908 (gage heights only), January 1909 to September 1910, December 1914 to July 1917, March 1919 to September 1967. Monthly discharge only for some periods, published in WSP 1317. Figures of discharge for January 1906 to March 1907, published in WSP 272 and 370, have been found to be unreliable and should not be used. Published as Middle Fork of Malheur River at Riverside 1906-7, as Middle Fork of Malheur River above South Fork, at Riverside 1909-10, as Malheur River above South Fork, at Riverside in WSP 370, 1906-10, and as Malheur River at Warm Springs reservoir site, near Riverside 1914-17.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 3,305 ft (by barometer). Jan. 3, 1906, to May 25, 1910, staff or chain gages at several sites about 3 miles downstream and 200 ft upstream from South Fork, at various datums. Dec. 9, 1914, to July 24, 1917, water-stage recorder and Mar. 18, 1919, to Apr. 27, 1920, staff gage, at sites about 1 mile upstream at different datums. Apr. 28, 1920, to Sept. 28, 1949, staff or hook gages at sites within 80 ft of present site at present datum.

Average discharge.--48 years (1919-67), 169 cfs (122,400 acre-ft per year).

Extremes.--Maximum discharge during year, 585 cfs July 8 (gage height, 5.01 ft); minimum daily, 0.10 cfs Oct. 7 to Apr. 9, Apr. 14, 15.
1909-10, 1915-17, 1919-67: Maximum discharge observed, 7,200 cfs Mar. 1, 1910 (gage height, 10.7 ft, site and datum then in use), from rating curve extended above 820 cfs by logarithmic plotting; no flow at times.

Remarks.--Records good. Flow completely regulated since November 1919 by Warmsprings Reservoir (see sta. no. 2145). Diversions for irrigation of 13,000 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	98	0.10	0.10	0.10	0.10	0.10	0.10	158	210	426	354	306
2	101	.10	.10	.10	.10	.10	.10	166	186	466	350	306
3	55	.10	.10	.10	.10	.10	.10	190	152	466	350	306
4	44	.10	.10	.10	.10	.10	.10	238	146	476	350	306
5	53	.10	.10	.10	.10	.10	.10	254	155	485	350	302
6	18	.10	.10	.10	.10	.10	.10	298	180	490	358	302
7	.10	.10	.10	.10	.10	.10	.10	346	81	495	362	282
8	.10	.10	.10	.10	.10	.10	.10	374	65	550	366	274
9	.10	.10	.10	.10	.10	.10	.10	378	75	560	366	270
10	.10	.10	.10	.10	.10	.10	53	382	76	540	382	270
11	.10	.10	.10	.10	.10	.10	91	346	76	535	394	270
12	.10	.10	.10	.10	.10	.10	69	294	76	545	399	270
13	.10	.10	.10	.10	.10	.10	18	254	76	550	399	246
14	.10	.10	.10	.10	.10	.10	.10	250	107	545	399	214
15	.10	.10	.10	.10	.10	.10	.10	266	186	540	399	202
16	.10	.10	.10	.10	.10	.10	41	282	238	540	390	190
17	.10	.10	.10	.10	.10	.10	70	282	286	525	386	183
18	.10	.10	.10	.10	.10	.10	70	306	306	520	408	183
19	.10	.10	.10	.10	.10	.10	70	322	306	500	417	183
20	.10	.10	.10	.10	.10	.10	70	330	306	490	399	183
21	.10	.10	.10	.10	.10	.10	84	330	286	476	394	183
22	.10	.10	.10	.10	.10	.10	107	330	262	462	426	183
23	.10	.10	.10	.10	.10	.10	134	330	230	453	435	166
24	.10	.10	.10	.10	.10	.10	143	350	226	435	399	158
25	.10	.10	.10	.10	.10	.10	143	358	226	426	382	146
26	.10	.10	.10	.10	.10	.10	143	370	238	422	382	137
27	.10	.10	.10	.10	.10	.10	143	374	306	417	382	137
28	.10	.10	.10	.10	.10	.10	119	354	350	412	382	137
29	.10	.10	.10	.10		.10	107	306	358	386	362	137
30	.10	.10	.10	.10	- - - - -	.10	128	278	378	374	330	134
31	.10	- - - - -	.10	.10	- - - - -	.10	- - - - -	270	- - - - -	358	310	- - - - -
Total	371.50	3.00	3.10	3.10	2.80	3.10	1,804.10	9,366	6,149	14,865	11,762	6,566
Mean	12.0	0.10	0.10	0.10	0.10	0.10	60.1	302	205	480	379	219
Max	101	0.10	0.10	0.10	0.10	0.10	143	382	378	560	435	306
Min	0.10	0.10	0.10	0.10	0.10	0.10	0.10	158	65	358	310	134
Ac-ft	737	6.0	6.1	6.1	5.6	6.1	3,580	18,580	12,200	29,480	23,330	13,020

Cal yr 1966: Total 73,229.70 Mean 201 Max 585 Min 0.10 Ac-ft 145,200
Wtr yr 1967: Total 50,898.70 Mean 139 Max 560 Min 0.10 Ac-ft 101,000

Note.--No gage-height record Oct. 7 to Apr. 9.

13-2165. North Fork Malheur River above Agency Valley Reservoir, near Beulah, Oreg.

Location.--Lat 43°57', long 118°10', in NE¼ sec.4, T.19 S., R.37 E., on left bank 500 ft upstream from Agency Valley Reservoir, 2.5 miles upstream from Warm Springs Creek, 3.5 miles northwest of Beulah, and at mile 18.0.

Drainage area.--355 sq mi.

Records available.--January to September 1914, June 1936 to September 1967. Published as "at Scott's Ranch, near Beulah" 1914.

Gage.--Water-stage recorder. Datum of gage is 3,351 ft above mean sea level, datum of 1929, supplementary adjustment of 1947, based on levels to high-water marks at Agency Valley Reservoir. Jan. 1 to Sept. 30, 1914, staff gage and June 10, 1936, to Oct. 14, 1958, water-stage recorder at site 0.5 mile upstream at different datums.

Average discharge.--31 years (1936-67), 125 cfs (90,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,300 cfs Jan. 29 (gage height, 4.31 ft); minimum, 23 cfs Nov. 23.

1914, 1936-67: Maximum discharge, 3,970 cfs Dec. 23, 1964 (gage height, 8.30 ft, from floodmark), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow; maximum gage height, 9.4 ft sometime during period Dec. 17-23, 1964 (ice jam); minimum discharge, 12 cfs Jan. 27, 1948, Jan. 3, 1959, Jan. 11, 1963, Dec. 7, 1964.

Remarks.--Records good. Diversions for irrigation of about 900 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	42	58	50	144	159	174	168	340	123	46	43
2	38	42	67	55	144	153	180	174	302	117	46	38
3	42	42	80	60	132	112	184	187	274	114	48	38
4	42	42	67	60	129	103	187	218	278	106	48	40
5	40	42	154	62	123	114	198	246	282	100	48	42
6	40	45	69	60	103	117	198	292	324	95	46	45
7	40	45	65	53	114	123	215	388	299	90	45	45
8	40	43	56	50	98	123	236	464	292	87	45	45
9	40	42	47	50	112	132	246	560	296	85	46	43
10	38	53	60	53	114	141	257	620	278	82	43	43
11	38	53	60	58	98	156	260	500	257	78	43	46
12	40	60	65	56	106	114	254	392	254	75	43	50
13	42	60	110	56	114	135	260	344	240	73	45	45
14	40	67	116	65	100	106	250	316	229	70	42	45
15	43	62	80	77	95	114	229	328	212	64	43	45
16	42	80	58	74	98	190	215	380	208	62	42	43
17	42	69	53	58	112	236	208	460	212	68	43	42
18	42	56	62	56	112	212	215	536	222	64	43	42
19	40	53	62	55	87	190	198	548	222	62	43	42
20	42	53	62	50	70	229	184	532	219	60	43	43
21	42	67	49	40	92	240	177	528	250	60	43	43
22	45	62	43	35	92	236	177	548	226	58	42	43
23	47	43	40	28	103	243	187	568	204	56	40	43
24	47	40	38	30	106	226	187	548	184	58	37	43
25	43	40	36	35	112	208	187	492	171	56	38	43
26	43	45	35	40	103	198	187	420	165	52	42	42
27	42	51	35	60	109	187	194	380	159	50	43	40
28	42	56	36	144	132	201	184	364	153	50	45	38
29	42	58	38	712		187	177	364	144	52	45	43
30	42	56	40	250	- - - - -	168	171	356	129	43	45	45
31	42	- - - - -	45	187	- - - - -	180	- - - - -	340	- - - - -	45	45	- - - - -
Total	1,282	1,569	1,886	2,719	3,054	5,233	6,176	12,561	7,025	2,255	1,356	1,288
Mean	41.4	52.3	60.8	87.7	109	169	206	405	234	72.7	43.7	42.9
Max	47	80	154	712	144	243	260	620	340	123	48	50
Min	34	40	35	28	70	103	171	168	129	43	37	38
Ac-ft	2,540	3,110	3,740	5,390	6,060	10,380	12,250	24,910	13,930	4,470	2,690	2,550

Cal yr 1966: Total 28,774 Mean 78.8 Max 395 Min 17 Ac-ft 57,070
Wtr yr 1967: Total 46,404 Mean 127 Max 712 Min 28 Ac-ft 92,040

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	1100	4.31	1,300				
5-10	0330	3.00	650				
5-23	1200	2.84	576				

13-2170. Agency Valley Reservoir at Beulah, Oreg.

Location.--Lat 43°55', long 118°09', in SE¼ sec.15, T.19 S., R.37 E., in control house at dam on North Fork Malheur River, 0.2 mile northwest of Beulah, and at mile 14.8.

Drainage area.--440 sq mi, approximately.

Records available.--December 1935 to September 1967.

Gage.--Pressure gage with mercury column read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 57,300 acre-ft June 16 (elevation, 3,338.60 ft); minimum observed, 3,330 acre-ft Oct. 4 (elevation, 3,288.95 ft).

1935-67: Maximum contents observed, 62,770 acre-ft May 3, 1941 (elevation, 3,341.50 ft); no contents Sept. 17 to Oct. 13, 1950, Aug. 28 to Oct. 4, 1955, Aug. 13 to Oct. 1, 1961.

Remarks.--Records good. Reservoir is formed by earth-fill, rock-faced dam. Storage began December 1935. Capacity, 59,920 acre-ft between elevations 3,263.21 (bottom of outlet tunnel) and 3,340.0 ft (top of spillway gates); with gates open the capacity is 32,220 acre-ft. No dead storage. Water is used for irrigation of lands below Juntura, on Vale project of Bureau of Reclamation. There are several other reservoirs in the Malheur River basin, all with less than 3,500 acre-ft capacity except Willow Creek No. 3 Reservoir near Malheur, which has a capacity of 49,000 acre-ft, now limited to 14,000 acre-ft.

Cooperation.--Capacity table furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1966 to September 1967.

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,289.35	3,480	-
Oct. 31	3,294.65	5,910	+2,420
Nov. 30	3,300.60	9,360	+3,450
Dec. 31	3,306.30	13,590	+4,230
Calendar year 1966	-	-	-8,520
Jan. 31	3,313.35	20,400	+6,810
Feb. 28	3,318.80	26,760	+6,360
Mar. 31	3,327.45	38,640	+11,880
Apr. 30	3,332.53	46,620	+7,980
May 31	3,336.80	54,010	+7,390
June 30	3,336.53	53,530	-480
July 31	3,327.10	38,110	-15,420
Aug. 31	3,313.33	20,380	-17,730
Sept. 30	3,299.28	8,520	-11,860
Water year 1966-67	-	-	+5,040

† Elevation at 0800 hrs.

13-2175. North Fork Malheur River at Beulah, Oreg.

Location.--Lat 43°54', long 118°09', in NW¼NE¼ sec.22, T.19 S., R.37 E., on left bank at Beulah, 0.25 mile downstream from Agency Valley Dam, 12 miles northwest of Juntura, and at mile 14.5.

Drainage area.--440 sq mi, approximately.

Records available.--June 1926 to September 1967. Published as "near Beulah" June 1926 to September 1935.

Gage.--Water-stage recorder. Datum of gage is 3,261.20 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 26, 1926, to Apr. 24, 1936, water-stage recorder at site 1 mile downstream at different datum. Apr. 25, 1936, to Sept. 30, 1949, staff gage at site 20 ft downstream at datum 1.0 ft higher. Oct. 1, 1949, to June 30, 1964, water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--32 years (1935-67), 134 cfs (97,010 acre-ft per year).

Extremes.--Maximum discharge during year, 415 cfs May 24-29 (gage height, 3.10 ft); minimum, 0.20 cfs for many days November to March.

1926-67: Maximum discharge, 7,000 cfs May 7, 1942 (gage height, 8.4 ft, from floodmark), caused by failure of gates at Agency Valley Dam, from rating curve extended above 1,100 cfs on basis of computation of peak flow over dam; no flow at times.

Remarks.--Records good except those below 10 cfs, which are fair. Flow regulated by Agency Valley Reservoir since 1935 (see sta. no. 2170). Diversions for irrigation of 2,400 acres above station. Prior to Apr. 25, 1936, station was downstream from intake of diversions for irrigation of about 120 acres below station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	0.80	0.20	0.20	0.20	0.20	0.40	139	285	338	320	335
2	54	.80	.30	.20	.20	.20	.40	169	230	338	322	328
3	56	1.0	.30	.20	.20	.20	.40	185	208	320	332	322
4	21	1.0	.20	.20	.20	.20	.40	232	195	330	335	320
5	.80	.80	.20	.20	.20	.20	.40	272	199	338	335	315
6	.50	.80	.20	.20	.20	.20	.40	275	203	338	332	310
7	.50	.80	.20	.20	.20	.20	.40	295	203	350	332	298
8	.50	.40	.20	.20	.20	.20	.80	302	179	312	332	282
9	.50	.20	.20	.20	.20	.20	1.0	318	167	305	330	265
10	.50	.20	.20	.20	.20	.20	67	320	145	312	330	260
11	.50	.30	.20	.20	.20	.20	121	302	137	312	328	258
12	.50	.30	.20	.20	.20	.20	119	288	137	312	328	238
13	.50	.30	.20	.20	.20	.20	115	290	139	312	325	230
14	.50	.20	.20	.20	.20	.20	80	290	167	312	325	228
15	.40	.20	.20	.20	.20	.20	100	292	175	312	325	205
16	.40	.30	.20	.20	.20	.20	121	305	232	312	325	195
17	.40	.20	.20	.20	.20	.20	143	312	305	312	325	195
18	.50	.20	.20	.20	.20	.20	159	315	322	312	325	195
19	.50	.20	.20	.20	.20	.20	157	315	335	312	325	193
20	.50	.30	.20	.20	.20	.20	151	328	340	312	325	215
21	.50	.20	.20	.20	.20	.20	151	338	340	312	325	228
22	.80	.30	.20	.20	.20	.20	153	338	340	312	325	225
23	.80	.20	.20	.20	.20	.20	153	388	338	312	325	225
24	.80	.20	.20	.20	.20	.20	161	415	312	312	325	222
25	.80	.20	.20	.20	.20	.20	173	415	305	312	335	220
26	.80	.30	.20	.20	.20	.40	177	415	330	312	338	220
27	.80	.30	.20	.20	.20	.40	145	415	338	312	338	215
28	.80	.30	.20	.20	.20	.40	131	415	338	312	335	212
29	.80	.20	.20	.40	- - - - -	.40	131	394	338	312	335	212
30	.80	.20	.20	.20	- - - - -	.40	133	370	338	312	338	210
31	.80	- - - - -	.20	.20	- - - - -	.40	- - - - -	305	- - - - -	312	335	- - - - -
Total	201.50	11.70	6.40	6.40	5.60	7.40	2,845.60	9,752	7,620	9,833	10,210	7,376
Mean	6.50	.390	.210	.210	.200	.240	94.9	315	254	317	329	246
Max	56	1.0	.30	.40	.20	.40	177	415	340	350	338	335
Min	.40	.20	.20	.20	.20	.20	.40	139	137	305	320	193
Ac-ft	400	23	13	13	11	15	5,640	19,340	15,110	19,500	20,250	14,630

Cal yr 1966: Total 34,848.70 Mean 95.5 Max 305 Min .20 Ac-ft 69,120
Wtr yr 1967: Total 47,875.60 Mean 131 Max 350 Min .20 Ac-ft 94,960

13-2200. Malheur River at Little Valley, near Hope, Oreg.

Location.--Lat 43°54', long 117°30', in SE¼ sec.24, T.19 S., R.42 E., on right bank 500 ft downstream from highway bridge at Little Valley, 8 miles southwest of Hope, 14 miles southwest of Vale, and at mile 34.0.

Drainage area.--3,010 sq mi, approximately.

Records available.--April 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 2,424.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--18 years, 190 cfs (137,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs Jan. 30 (gage height, 5.56 ft); minimum, 13 cfs Jan. 6.

1949-67: Maximum discharge, 12,300 cfs Feb. 24, 1957 (gage height, 11.5 ft, from floodmark), from rating curve extended above 5,500 cfs on basis of slope-area measurement of peak flow; minimum, 7.8 cfs Feb. 15, 1966.

The two greatest floods known occurred in March 1894 and March 1910, on basis of records for former station near Namorf.

Remarks.--Records good. Flow regulated by Warmsprings and Agency Valley Reservoirs (see sta. nos. 2145 and 2170). Vale-Oregon Canal diverts as much as 600 cfs above station at Namorf in sec.31, T.20 S., R.41 E., for supplying Bully Creek Reservoir and for irrigation. Many small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	40	19	42	347	37	25	76	119	128	130	110
2	47	40	20	45	175	36	23	78	119	161	135	98
3	46	40	25	50	119	34	21	84	100	193	147	97
4	42	40	21	51	110	32	21	81	89	196	169	102
5	38	40	24	48	104	29	20	95	86	199	158	98
6	32	43	22	35	104	28	20	98	93	196	135	102
7	39	42	21	47	70	26	21	108	97	196	128	106
8	72	41	20	44	54	26	20	117	82	222	130	102
9	58	41	19	50	50	26	21	117	84	240	137	91
10	47	43	21	46	46	26	20	130	68	226	150	86
11	42	46	21	44	41	26	29	135	66	222	164	89
12	40	48	21	42	40	25	128	121	66	216	167	89
13	38	51	23	50	48	57	167	91	64	226	175	89
14	36	50	25	56	56	78	128	84	59	222	178	91
15	38	48	22	67	46	73	97	95	54	212	178	91
16	38	48	69	67	41	70	81	95	56	205	172	97
17	38	30	85	55	38	74	95	115	84	216	161	91
18	38	21	77	50	39	40	137	119	193	202	150	86
19	39	19	70	48	53	40	123	130	231	196	155	84
20	42	19	67	48	44	40	110	137	216	184	172	79
21	41	18	64	53	40	36	97	145	242	178	167	76
22	42	19	59	59	37	33	86	147	181	187	147	79
23	43	19	51	64	35	31	82	147	138	181	161	81
24	43	18	50	64	37	29	86	145	130	181	181	81
25	42	18	48	67	45	30	110	150	117	169	142	81
26	41	18	45	70	41	29	115	167	106	172	135	79
27	41	18	42	74	37	28	133	202	104	175	153	76
28	40	19	40	152	37	27	117	199	125	181	155	74
29	39	21	40	882		28	108	205	145	178	155	74
30	40	19	40	1,050	- - - - -	26	86	145	123	164	140	74
31	40	- - - - -	40	520	- - - - -	27	- - - - -	117	- - - - -	150	123	- - - - -
Total	1,308	977	1,211	4,040	1,934	1,147	2,327	3,875	3,437	5,974	4,750	2,653
Mean	42.2	32.6	39.1	130	69.1	37.0	77.6	125	115	193	153	88.4
Max	72	51	85	1,050	347	78	167	205	242	240	181	110
Min	32	18	19	35	35	25	20	76	54	128	123	74
Ac-ft	2,590	1,940	2,400	8,010	3,840	2,280	4,620	7,690	6,820	11,850	4,420	5,260

Cal yr 1966: Total 33,627 Mean 92.1 Max 234 Min 15 Ac-ft 66,700
Wtr yr 1967: Total 33,633 Mean 92.1 Max 1,050 Min 18 Ac-ft 66,710

13-2265. Bully Creek at Warmsprings, near Vale, Oreg.

Location.--Lat 44°01'10", long 117°27'35", in SE¼NW¼ sec.9, T.18 S., R.43 E., on left bank 400 ft downstream from Cottonwood Creek, 7.2 miles upstream from Bully Creek Dam, 11.4 miles northwest of Vale, and at mile 14.7.

Drainage area.--539 sq mi.

Records available.--September 1903 to February 1904, February 1905 to March 1907, February 1910, January 1911 to May 1917, March 1922 to June 1923, October 1963 to September 1967. Monthly discharges only for some periods, published in WSP 1317. Published as "near Vale" 1903, 1907, and as "above Vale" 1904-6, 1910.

Gage.--Water-stage recorder. Datum of gage is 2,527.21 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 1, 1923, staff gages within half a mile downstream at different datums.

Average discharge.--10 years (1905-6, 1911-16, 1963-67), 44.1 cfs (31,930 acre-ft per year).

Extremes.--Maximum discharge during year, 1,750 cfs Jan. 29 (gage height, 4.00 ft); minimum, 0.27 cfs Sept. 3.

1904-7, 1910, 1911-17, 1922-23, 1963-67: Maximum discharge, 12,800 cfs Dec. 22, 1964 (gage height, 8.68 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records good. No regulation. Many diversions for irrigation above station. Bully Creek Reservoir feed canal diverts from Malheur River by way of Vale-Oregon canal to Bully Creek Reservoir (see sta. no. 2268) below station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	3.0	3.0	13	175	9.0	70	72	18	7.5	0.60	0.35
2	.70	2.7	3.3	13	132	9.6	74	70	15	4.5	.55	.30
3	.70	2.4	5.7	13	110	9.0	77	70	12	3.3	.55	.27
4	.80	1.9	4.9	13	118	9.0	77	70	15	4.2	.55	.30
5	.80	1.7	5.7	15	140	9.0	79	70	14	3.9	.55	.40
6	.80	2.7	4.5	10	108	10	81	64	14	4.5	.55	.50
7	1.0	2.4	4.2	12	95	11	83	29	18	3.3	.60	.60
8	1.0	2.4	4.9	12	84	12	84	23	23	3.0	.65	.60
9	1.5	2.4	4.2	10	77	12	84	23	37	2.4	.75	.40
10	1.7	2.4	5.7	11	70	12	84	32	24	2.4	.80	.50
11	1.5	3.6	9.0	11	66	12	86	56	14	2.4	.80	.65
12	1.3	3.9	9.0	11	61	11	101	67	12	2.7	.80	1.0
13	1.5	3.9	12	12	64	11	106	60	11	2.7	1.0	.50
14	1.9	3.9	14	11	64	12	108	58	11	2.7	1.0	.40
15	1.7	3.6	14	11	55	12	108	55	8.5	2.7	.80	.40
16	1.7	3.6	13	11	52	12	108	50	8.0	2.4	.70	.45
17	1.7	3.6	11	15	52	30	106	45	5.3	2.4	.65	.50
18	1.7	3.3	14	20	54	67	103	46	4.9	2.4	.65	.55
19	1.7	3.3	16	21	50	74	103	51	4.9	2.4	.65	1.0
20	1.7	3.3	16	20	43	68	99	51	25	1.3	.65	1.0
21	1.7	3.0	15	20	43	68	95	45	18	1.0	.70	1.1
22	2.2	3.6	13	18	42	72	90	34	18	.65	.70	1.5
23	2.2	3.6	10	17	16	72	86	37	23	.60	.60	1.5
24	2.2	3.3	10	16	11	72	86	24	19	.60	.55	1.1
25	1.9	3.0	10	15	11	70	81	18	17	.75	.45	.55
26	1.9	3.0	9.5	20	9.0	72	79	15	12	.60	.50	.50
27	1.9	2.7	9.5	25	8.0	67	77	13	11	.55	.50	.50
28	1.9	2.7	9.5	62	8.0	67	75	11	11	.55	.50	.50
29	1.7	3.3	10	771	----------	67	75	14	8.5	.55	.50	.55
30	1.9	3.0	11	470	----------	67	74	14	8.0	.55	.45	.75
31	3.0	----------	12	268	----------	67	----------	16	----------	.55	.50	----------
Total	48.60	91.2	293.6	1,967	1,818.0	1,172.6	2,639	1,303	440.1	70.05	19.80	19.22
Mean	1.57	3.04	9.47	63.5	64.9	37.8	88.0	42.0	14.7	2.26	.64	.64
Max	3.0	3.9	16	771	175	74	108	72	37	7.5	1.0	1.5
Min	.70	1.7	3.0	10	8.0	9.0	70	11	4.9	.55	.45	.27
Ac-ft	96	181	582	3,900	3,610	2,330	5,230	2,580	873	139	39	38
(†)	116	474	880	0	2,900	4,050	2,120	362	1,120	93	239	743
(‡)	180	0	0	0	0	0	850	3,020	2,330	5,850	4,800	1,800

Cal yr 1966: Total 2,645.00 Mean 7.25 Max 238 Min 0.20 Ac-ft 5,250
Wtr yr 1967: Total 9,882.17 Mean 27.1 Max 771 Min .27 Ac-ft 19,600

Peak discharge (base, 120 cfs).--Jan. 29 (1700 hrs) 1,750 cfs (4.00 ft).

† Bully Creek Reservoir feed canal, in acre-feet.
‡ Release in acre-feet, from Bully Creek Reservoir, during irrigation season.

13-2268. Bully Creek Reservoir near Vale, Oreg.

Location.--Lat 44°00'50", long 117°23'45", in SE¼SW¼ sec.12, T.18 S., R.43 E., in control chamber at dam on Bully Creek, 8 mile northwest of Vale, and at mile 12.0.

Drainage area.--547 sq mi.

Records available.--February 1963 to September 1967.

Gage.--Pressure gage with mercury column read daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 27,570 acre-ft May 3-8 (elevation, 2,513.50 ft); minimum observed, 959 acre-ft Oct. 31 (elevation, 2,463.10 ft).

1963-67: Maximum contents observed, 29,290 acre-ft Apr. 22, 23, 1965 (elevation, 2,515.30 ft); minimum observed, 959 acre-ft Oct. 31, 1966 (elevation, 2,463.10 ft).

Remarks.--Records good. Reservoir is formed by earth-fill, rock-faced dam. Storage began Feb. 1, 1963. Capacity, 29,980 acre-ft between elevations 2,456.58 (outlet works) and 2,516.0 ft (spillway crest). Dead storage, 1,650 acre-ft below elevation 2,456.58 ft. Water used for irrigation on lands of Vale-Oregon Irrigation District. Figures given herein do not include dead storage.

There are several other reservoirs in the Malheur River basin, all with less than 3,500 acre-ft capacity except Willow Creek No. 3 Reservoir near Malheur, which has a capacity of 49,000 acre-ft, now limited to 14,000 acre-ft.

Cooperation.--Capacity table furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,464.00	1,120	-
Oct. 31	2,463.10	959	-161
Nov. 30	2,466.10	1,530	+571
Dec. 31		a3,100	1,570
Calendar year 1966	-	-	-13,920
Jan. 31	2,485.70	7,750	+4,650
Feb. 28	2,498.16	14,990	+7,240
Mar. 31	2,506.85	21,650	+6,660
Apr. 30	2,513.20	27,280	+5,630
May 31	2,511.30	25,530	-1,750
June 30	2,510.20	24,540	-990
July 31	2,502.20	17,920	-6,620
Aug. 31	2,494.85	12,810	-5,110
Sept. 30	2,490.90	10,440	-2,370
Water year 1966-67	-	-	+9,320

† Hour of gage reading not reported.
a No gage-height record.

13-2690. Snake River at Weiser, Idaho

Location.--Lat 44°14'44", long 116°58'48", in NW¼SE¼ sec.31, T.11 N., R.5 W., on right bank at upstream side of U.S. Highway 30N bridge at Weiser, two-thirds of a mile downstream from Weiser River, and at mile 351.3.

Drainage area.--69,200 sq mi, approximately. Mean altitude, 5,400 ft.

Records available.--October 1910 to September 1967. Fragmentary gage-height record obtained by U.S. Weather Bureau since 1895. Monthly discharge only for October 1910, published in WSP 1317.

Gage.--Water-stage recorder activated by bubble system. Datum of gage is 2,086.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1914, staff gage 0.2 mile downstream at different datum. Oct. 1, 1914, to Oct. 11, 1933, staff gage, and Oct. 12, 1933, to Apr. 13, 1964, water-stage recorder, at site a third of a mile upstream at same datum.

Average discharge.--57 years, 17,670 cfs (12,790,000 acre-ft per year); 15-year base period (1947-62), 17,820 cfs.

Extremes.--Maximum discharge during year, 33,300 cfs June 22 (gage height, 7.14 ft); minimum, 9,420 cfs July 20, 21 (gage height, 2.42 ft).

1910-67: Maximum discharge, 84,500 cfs Apr. 29, 1952 (gage height, 14.67 ft, site and datum then in use); minimum observed, 5,100 cfs Aug. 5, 1924 (gage height, 1.35 ft, site and datum then in use).

Flood of Mar. 3, 1910, reached a stage of 17.1 ft at site and datum a third of a mile upstream, from reading on old U.S. Weather Bureau gage (discharge, 120,000 cfs). Flood in June 1894 was considerably higher.

Remarks.--Records good. Flow regulated by many reservoirs above station. Diurnal fluctuation caused by Swan Falls powerplant. Diversions for irrigation of about 2,473,000 acres (1948 determination) above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,200	12,900	12,900	12,500	18,500	11,600	12,400	11,800	20,500	18,900	9,770	11,000
2	12,800	12,500	13,100	11,900	16,400	12,300	11,800	12,000	21,300	20,000	9,960	11,000
3	13,200	12,900	14,100	11,900	15,200	11,500	11,600	12,000	21,000	18,400	10,100	10,600
4	12,900	12,800	14,500	11,500	14,500	12,600	12,300	12,200	19,700	15,700	9,960	10,900
5	13,500	12,800	15,100	12,100	13,400	10,400	13,400	11,800	19,500	14,400	9,730	11,300
6	13,200	12,900	15,200	12,100	13,800	10,800	12,800	11,200	20,400	13,100	9,770	11,900
7	13,400	13,200	13,600	12,100	13,200	10,900	12,700	11,300	23,300	13,400	10,000	11,700
8	12,900	12,800	13,200	11,900	12,900	11,000	12,900	12,100	23,000	13,700	9,810	11,600
9	12,900	12,900	13,100	11,700	12,100	10,200	13,300	13,400	23,200	12,600	9,840	12,800
10	13,100	12,900	13,300	11,700	12,500	10,600	12,600	16,900	23,200	12,000	9,880	13,000
11	12,700	12,900	13,100	12,000	11,600	11,300	14,300	17,900	23,100	11,700	9,920	12,700
12	12,800	13,700	12,900	12,000	12,300	11,500	14,700	16,300	22,400	11,700	10,100	12,800
13	13,000	13,700	12,800	11,500	11,800	11,400	12,000	16,100	21,800	11,800	10,400	12,900
14	13,300	13,900	14,000	11,800	11,400	11,600	13,200	14,600	20,400	11,100	9,920	13,000
15	13,600	13,400	14,300	11,900	11,900	12,000	12,500	14,600	19,500	9,650	9,770	13,100
16	14,900	13,400	13,300	12,000	12,400	12,000	12,800	14,400	19,300	10,100	9,960	13,200
17	14,100	13,500	12,700	12,200	12,400	11,900	11,300	15,100	20,100	9,610	9,770	13,300
18	13,500	13,400	12,600	12,500	11,500	11,800	10,600	17,300	19,600	9,730	10,100	13,400
19	13,400	12,900	12,900	12,200	11,900	12,300	11,200	18,600	19,300	9,690	10,400	13,200
20	13,200	12,500	12,900	12,100	11,200	13,000	11,600	19,000	22,100	9,460	9,690	13,000
21	13,300	12,800	12,800	13,800	11,200	12,300	11,800	19,500	29,100	9,460	10,000	12,000
22	13,300	13,000	12,400	16,300	11,300	13,100	11,600	20,200	31,500	9,730	9,770	12,200
23	13,500	12,900	12,700	14,500	11,200	12,300	10,600	21,600	29,200	10,100	9,840	12,900
24	13,500	12,700	12,200	12,800	11,200	12,500	10,900	22,500	30,600	10,100	9,920	13,000
25	13,700	12,600	12,500	14,500	11,800	12,700	10,700	22,900	26,900	10,100	10,200	13,800
26	13,500	12,400	12,300	14,100	11,000	12,700	11,800	22,300	26,400	10,000	10,100	13,400
27	13,600	12,800	11,500	13,800	11,300	12,400	11,700	20,300	21,700	9,770	10,300	11,400
28	13,700	12,500	11,500	15,300	11,800	12,400	12,000	19,600	21,200	10,000	10,400	12,300
29	13,400	12,800	12,400	22,200		14,200	12,000	19,200	20,400	10,100	10,700	12,200
30	13,300	12,900	12,500	21,500	- - - - -	12,400	12,000	20,200	18,800	9,960	10,800	12,200
31	13,300	- - - - -	12,500	19,800	- - - - -	12,900	- - - - -	20,400	- - - - -	10,100	10,800	- - - - -
Total	412,700	389,300	404,900	418,200	351,700	370,600	365,100	517,300	678,500	366,160	311,680	371,800
Mean	13,310	12,980	13,060	13,490	12,560	11,950	12,170	16,690	22,620	11,810	10,050	12,390
Max	14,900	13,900	15,200	22,200	18,500	14,200	14,700	22,900	31,500	20,000	10,800	13,800
Min	12,200	12,400	11,500	11,500	11,000	10,200	10,600	11,200	18,800	9,460	9,690	10,600
Ac-ft	818,600	772,200	803,100	829,500	697,600	735,100	724,200	1,026,000	1,346,000	726,300	618,200	737,500

Cal yr 1966: Total 4,982,640 Mean 13,650 Max 22,100 Min 8,920 Ac-ft 9,883,000
Wtr yr 1967: Total 4,957,940 Mean 13,580 Max 31,500 Min 9,460 Ac-ft 9,834,000

13-2693. North Fork Burnt River near Whitney, Oreg.

Location.--Lat 44°36'00", long 118°15'10", in NE¼ sec.23, T.11 S., R.36 E., on right bank 0.1 mile upstream from Petticoat Creek, 1.0 mile downstream from U.S. Bureau of Reclamation damsite, 4.5 miles southeast of Whitney, and 11.5 miles northwest of Unity.

Drainage area.--110 sq mi, approximately.

Records available.--June 1964 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 4,000 ft (from topographic map). Prior to July 12, 1966, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 291 cfs May 10 (gage height, 2.29 ft); minimum, 0.27 cfs Aug. 31, Sept. 1, 2.

1964-67: Maximum discharge, 854 cfs Apr. 20, 1965 (gage height, 3.67 ft); maximum gage height, 4.95 ft Jan. 29, 1965 (ice jam); minimum daily discharge, 0.20 cfs Aug. 15-19, 1966, but may have been less when stage fell below inlets July 19 to Aug. 17, 1966.

Remarks.--Records good. Some regulation from irrigation and mining operations upstream. A transmountain diversion from headwaters of Middle Fork John Day River delivers as much as 12 cfs to North Fork Burnt River above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.37	1.2	6.2	5.3	37	23	54	61	64	18	2.1	.27
2	.37	1.3	7.8	5.3	32	26	53	63	54	18	1.8	.32
3	.37	1.3	7.8	5.6	26	28	64	72	46	17	2.6	.37
4	.37	1.3	7.1	5.6	24	25	77	90	42	16	1.9	.37
5	.37	1.4	7.5	5.0	22	22	85	110	41	16	1.6	.42
6	.37	1.6	4.9	5.6	21	24	86	139	37	14	1.4	.58
7	.37	1.4	4.6	5.6	21	27	98	187	33	12	1.4	.58
8	.41	2.7	4.4	5.6	20	31	112	227	29	10	1.4	.49
9	.37	2.0	4.2	5.3	20	34	117	279	26	10	1.3	.42
10	.41	2.3	4.4	5.6	19	33	122	263	30	8.8	1.3	.37
11	.41	2.3	4.9	5.6	19	30	117	193	27	8.0	1.2	.58
12	.50	3.8	5.3	5.6	18	26	105	157	30	7.0	1.2	.78
13	.74	4.0	8.5	5.6	17	24	112	127	36	6.7	1.2	.58
14	.45	4.6	8.1	8.8	17	24	112	114	29	5.5	1.1	.49
15	.80	5.3	7.8	9.6	17	24	90	136	26	5.3	1.1	.58
16	1.0	6.2	6.2	11	17	33	79	173	26	5.5	.98	.58
17	1.4	5.9	6.2	9.5	16	71	72	216	26	6.7	1.1	.49
18	1.2	5.3	6.2	8.5	16	75	79	228	33	7.0	1.1	.58
19	1.6	4.4	6.5	10	16	66	69	203	23	5.5	1.1	.49
20	1.6	4.4	6.2	9.5	13	72	60	187	25	5.3	1.2	.49
21	1.8	4.2	5.3	10	14	88	57	182	36	4.2	1.1	.49
22	2.0	4.2	4.2	6.0	16	96	55	185	37	3.7	.88	.42
23	2.0	4.0	4.2	6.5	16	125	57	164	32	3.5	.42	.42
24	2.0	3.6	4.2	6.5	16	117	83	133	26	3.5	.37	.42
25	2.1	3.3	4.6	7.8	17	90	88	103	25	3.5	.37	.42
26	2.0	3.3	5.3	8.1	17	77	85	83	23	3.7	.37	.42
27	1.9	3.3	4.6	8.1	18	72	88	74	20	4.2	.37	.42
28	1.4	3.4	4.6	8.1	21	77	77	75	16	2.6	.32	.42
29	1.4	3.8	5.3	23	------	69	69	69	16	2.8	.32	.49
30	1.4	4.2	5.3	63	------	58	67	61	18	2.8	.32	.58
31	1.2	------	5.0	51	------	60	------	58	------	2.4	.32	------
TOTAL	32.68	100.0	177.4	336.3	543	1,647	2,489	4,412	932	239.2	33.24	14.33
MEAN	1.05	3.33	5.72	10.8	19.4	53.1	83.0	142	31.1	7.72	1.07	.48
MAX	2.1	6.2	8.5	63	37	125	122	279	64	18	2.6	.78
MIN	.37	1.2	4.2	5.0	13	22	53	58	16	2.4	.32	.27
AC-FT	65	198	352	667	1,080	3,270	4,940	8,750	1,850	474	66	28

CAL YR 1966: TOTAL 6,964.18 MEAN 19.1 MAX 322 MIN .20 AC-FT 13,810
WAT YR 1967: TOTAL 10,956.15 MEAN 30.0 MAX 279 MIN .27 AC-FT 21,730

Peak discharge (base, 400 cfs).--No peaks above base.

13-2708. South Fork Burnt River above Barney Creek, near Unity, Oreg.

Location.--Lat 44°24'20", long 118°18'20", in S½ sec.28, T.13 S., R.36 E., on right bank 300 ft upstream from Barney Creek and 6 miles southwest of Unity.

Drainage area.--38.5 sq mi.

Records available.--March 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 4,347.06 ft above mean sea level (levels by Bureau of Reclamation). Prior to July 18, 1963, staff gage 6 ft upstream at datum 0.16 ft higher. July 18, 1963, to Aug. 30, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 91 cfs May 22 (gage height, 1.65 ft); minimum, 13 cfs Mar. 4.

1963-67: Maximum discharge, 186 cfs Apr. 29, 1965 (gage height, 1.98 ft); maximum gage height, 3.11 ft Dec. 18, 1964 (ice jam); minimum discharge, 13 cfs Mar. 4, 1967.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	19	19	20	22	22	23	24	51	29	23	21
2	22	19	19	19	22	22	23	26	47	29	23	21
3	21	19	18	20	22	21	23	28	45	28	22	21
4	20	19	19	20	22	20	24	30	46	28	22	21
5	20	20	19	20	22	22	24	33	46	28	22	21
6	20	20	18	20	21	22	24	37	47	27	23	22
7	20	19	18	19	21	22	25	45	46	27	22	22
8	20	19	18	20	21	22	26	52	46	27	22	22
9	20	20	17	20	22	22	26	61	45	27	22	22
10	20	20	18	20	22	23	29	61	43	26	22	22
11	20	21	18	20	22	22	29	51	42	26	22	23
12	21	21	18	20	22	21	28	45	42	26	22	22
13	20	22	20	22	22	22	28	40	41	26	22	22
14	20	22	19	22	22	21	27	40	40	25	22	22
15	20	22	18	22	21	22	26	42	39	25	21	22
16	20	24	18	21	22	23	25	53	38	25	21	22
17	20	19	18	21	22	23	25	69	37	26	21	22
18	20	19	18	21	22	23	25	78	36	25	21	22
19	21	19	18	22	20	23	24	75	35	24	21	21
20	20	22	18	22	18	24	24	75	35	24	21	21
21	20	20	18	22	22	24	24	78	35	24	21	21
22	21	20	17	21	21	24	24	87	35	24	20	21
23	20	18	18	17	21	24	24	87	34	24	19	21
24	20	18	18	22	21	24	25	78	32	24	19	22
25	19	19	21	22	22	24	25	70	32	24	19	21
26	19	18	21	22	21	24	25	65	31	24	20	21
27	19	18	21	22	21	24	25	59	30	24	21	21
28	19	19	22	24	22	24	25	56	30	24	21	21
29	19	19	21	26	------	24	25	56	30	23	20	21
30	19	19	20	24	------	24	24	55	29	23	20	22
31	19	------	20	23	------	24	------	53	------	23	20	------
TOTAL	619	593	583	656	601	706	754	1,709	1,165	789	657	646
MEAN	20.0	19.8	18.8	21.2	21.5	22.8	25.1	55.1	38.8	25.5	21.2	21.5
MAX	22	24	22	26	22	24	29	87	51	29	23	23
MIN	19	18	17	17	18	20	23	24	29	23	19	21
AC-FT	1,230	1,180	1,160	1,300	1,190	1,400	1,500	3,390	2,310	1,560	1,300	1,280

CAL YR 1966: TOTAL 8,686 MEAN 23.8 MAX 47 MIN 17 AC-FT 17,230
WAT YR 1967: TOTAL 9,478 MEAN 26.0 MAX 87 MIN 17 AC-FT 18,800

13-2725. Unity Reservoir near Unity, Oreg.

Location.--Lat 44°30'20", long 118°11'00", in SW¼SE¼ sec.21, T.12 S., R.37 E., at Unity Dam on Burnt River, 500 ft downstream from Job Creek, 0.5 mile downstream from confluence of North, Middle, and South Forks of Burnt River, 4.5 miles north of Unity, and at mile 63.6.

Drainage area.--309 sq mi.

Records available.--March 1938 to September 1967.

Gage.--Staff gage above elevation 3,803.3 ft, reference marks for lower readings; gage read once daily. Datum of gage is at mean sea level (Bureau of Reclamation bench mark). Prior to Nov. 4, 1941, reference mark or mercury pressure gage at same site and datum.

Extremes.--Maximum contents observed during year, 25,880 acre-ft May 11 (elevation, 3,820.72 ft); minimum observed, 457 acre-ft Oct. 4 (elevation, 3,779.32 ft).

1938-67: Maximum contents observed, 26,190 acre-ft May 12, 1963 (elevation, 3,821.04 ft); no contents Sept. 5 to Oct. 4, 1955.

Remarks.--Records good. Reservoir is formed by earth-fill dam with concrete spillway and outlet works, completed by Bureau of Reclamation in 1937; storage began Feb. 19, 1938. Capacity, 25,220 acre-ft between elevations 3,776.5 ft (bottom of outlet gates) and 3,820.0 ft (top of radial gates on spillway when closed). Dead storage, 600 acre-ft below elevations 3,776.5 ft. Records given herein represent usable contents. Water used for irrigation in the Burnt River Irrigation District near Hereford and Bridgeport. Contents computed from capacity table based on surveys by Bureau of Reclamation.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,780.66	732	-
Oct. 31	3,784.20	1,690	+958
Nov. 30	3,789.85	3,950	+2,260
Dec. 31	3,795.05	6,640	+2,690
Calendar year 1966	-	-	-2,240
Jan. 31	3,800.20	9,730	+3,090
Feb. 28	3,804.60	12,680	+2,950
Mar. 31	3,811.56	17,910	+5,230
Apr. 30	3,819.18	24,470	+6,560
May 31	3,819.42	24,690	+220
June 30	3,813.65	19,620	-5,070
July 31	3,806.42	13,980	-5,640
Aug. 31	3,797.80	8,230	-5,750
Sept. 30	3,788.10	3,160	-5070
Water year 1966-67	-	-	+2,428

† Gage read daily between 1500 and 2000 hrs.

13-2730. Burnt River near Hereford, Oreg.

Location.--Lat 44°30'20", long 118°10'55", in SE¼ sec.21, T.12 S., R.37 E., on left bank 800 ft downstream from Unity Dam, 0.4 mile upstream from Van Cleve ditch, 7 miles west of Hereford, and at mile 63.5. Prior to Nov. 1, 1966, at site 0.1 mile downstream.

Drainage area.--309 sq mi.

Records available.--March to September 1915, April to September 1916, October 1928 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Digital water-stage recorder. Datum of gage is 3,758.19 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 16, 1915, to Sept. 4, 1916, staff gage at site 2 miles downstream at different datum. Oct. 22, 1928, to June 28, 1932, graphic water-stage recorder at site 0.9 mile downstream at different datum. June 29, 1932, to Sept. 16, 1937, graphic water-stage recorder at site 150 ft downstream at different datum. Sept. 17, 1937, to Sept. 30, 1943, graphic water-stage recorder at site 450 ft downstream at datum 1.85 ft higher. Oct. 1, 1943, to July 8, 1964, graphic water-stage recorder, and July 9, 1964 to Oct. 31, 1966 digital water-stage recorder at site 450 ft downstream at datum 1.44 ft lower.

Average discharge.--39 years (1928-67, 81.0 cfs (58,640 acre-ft per year).

Extremes.--Maximum discharge during year, 262 cfs May 11 (gage height, 4.70 ft); minimum, 0.03 cfs Oct. 15.

1915-16, 1928-67: Maximum discharge, 2,220 cfs Apr. 17, 1943 (gage height, 8.79 ft, present datum), from rating curve extended above 1,300 cfs by logarithmic plotting; maximum gage height, 9.29 ft, present datum, Apr. 16, 1943, just before concrete control washed out; no flow at times; minimum discharge before construction of Unity Dam, 1.6 cfs Aug. 31, 1935.

Remarks.--Records good. Flow regulated since 1938 by Unity Reservoir (see sta. no. 2725). Diversions for irrigation of 8,700 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	36	1.8	1.9	3.0	5.0	5.5	1.1	42	130	110	135	104
2	34	2.0	1.8	3.0	5.0	5.5	1.1	43	130	109	133	107
3	31	1.9	1.9	3.2	5.0	5.6	1.3	43	126	108	119	106
4	19	1.8	1.9	3.2	5.0	6.0	1.3	44	119	107	116	106
5	.12	1.8	1.9	3.6	5.0	6.2	1.2	44	119	104	109	109
6	.42	1.8	1.9	3.8	5.0	6.0	1.2	48	148	102	102	108
7	.50	1.9	2.1	3.8	5.0	5.5	1.4	127	161	100	92	106
8	.12	2.0	2.1	3.8	5.2	5.2	1.4	190	157	99	88	104
9	.10	2.0	2.0	3.8	5.2	4.2	1.4	218	153	97	98	103
10	.10	1.2	1.9	3.8	5.2	4.0	1.6	239	151	96	103	102
11	.12	1.2	2.0	3.8	5.2	3.2	1.8	258	147	95	102	103
12	.15	1.2	2.0	4.2	5.2	2.6	2.4	257	145	93	102	100
13	.15	1.2	2.0	4.4	5.2	2.6	2.4	252	142	92	102	75
14	.15	1.1	2.0	4.4	5.2	2.4	2.1	240	141	91	101	75
15	.10	1.1	2.0	4.4	5.2	2.3	3.6	210	139	90	101	74
16	.12	1.3	2.1	4.2	5.5	2.3	7.2	181	136	94	100	73
17	.10	1.5	2.2	4.0	5.5	2.3	7.3	170	134	92	100	72
18	.12	1.5	2.2	4.0	5.5	2.3	11	173	133	90	100	72
19	.12	1.6	2.2	4.0	5.5	2.1	18	203	132	90	99	71
20	.12	1.5	2.3	3.8	5.5	2.3	18	218	131	95	99	70
21	.12	1.5	2.4	4.2	5.5	2.6	19	225	129	93	90	75
22	.10	1.6	2.4	4.2	5.5	2.6	14	225	126	119	86	81
23	.18	1.6	2.3	4.2	5.5	1.9	14	224	123	144	85	80
24	.12	1.7	2.3	4.4	5.5	1.4	15	223	122	128	84	79
25	.12	1.8	2.4	4.6	3.6	1.7	20	215	121	107	83	78
26	.12	1.8	2.4	4.6	3.8	1.5	30	202	119	106	91	77
27	.12	1.9	2.4	4.6	4.8	1.5	34	179	116	104	107	76
28	1.0	1.9	2.6	4.8	5.2	1.5	42	153	115	100	106	67
29	1.2	1.9	2.7	4.8	------	.95	42	140	112	94	104	63
30	1.4	1.9	2.9	4.8	------	1.1	41	130	112	101	103	62
31	1.6	------	3.0	4.8	------	1.2	------	130	------	121	102	------
TOTAL	128.69	49.0	68.2	126.2	143.5	96.25	357.8	5,246	3,969	3,171	3,142	2,578
MEAN	4.15	1.63	2.20	4.07	5.13	3.10	11.9	169	132	102	101	85.9
MAX	36	2.0	3.0	4.8	5.5	6.2	42	258	161	144	135	109
MIN	.10	1.1	1.8	3.0	3.6	.95	1.1	42	112	90	83	62
AC-FT	255	97	135	250	285	191	710	10,410	7,870	6,290	6,230	5,110

CAL YR 1966: TOTAL 17,087.69 MEAN 46.8 MAX 181 MIN .10 AC-FT 33,890
WAT YR 1967: TOTAL 19,075.64 MEAN 52.3 MAX 258 MIN .10 AC-FT 37,840

13-2742. Burnt River near Bridgeport, Oreg.

Location (revised).--Lat 44°32'30", long 117°41'20", in SW¼ sec.3, T.12 S., R.41 E., on left bank 0.5 mile downstream from Dark Canyon, 4.6 miles upstream from Deer Creek, 5 miles northeast of Bridgeport, and at mile 37.1.

Drainage area.--650 sq mi, approximately.

Records available.--October 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 3,223.22 ft above mean sea level (levels by Bureau of Reclamation). Prior to Mar. 17, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--11 years, 98.4 cfs (71,240 acre-ft per year).

Extremes.--Maximum discharge during year, 302 cfs May 13 (gage height, 2.87 ft); minimum, 11 cfs Dec. 24.

1956-67: Maximum discharge, 1,530 cfs Apr. 22, 1965 (gage height, 6.16 ft); minimum, 8.8 cfs Sept. 30, 1966.

Remarks.--Records good. Flow regulated by Unity Reservoir (see sta. no. 2725). Many diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	22	21	20	35	31	42	78	203	119	62	58
2	33	22	23	19	31	32	42	78	210	124	75	55
3	38	22	34	19	30	32	41	79	196	127	82	57
4	42	21	34	18	29	32	43	80	194	135	83	58
5	44	21	38	18	28	29	44	79	193	129	81	62
6	45	21	33	19	27	30	46	74	199	114	89	70
7	48	20	29	17	25	31	45	73	200	114	94	71
8	44	22	27	17	26	31	45	101	213	110	87	70
9	38	21	27	16	25	31	44	168	216	96	76	72
10	37	20	23	17	25	34	46	185	214	94	73	71
11	35	20	23	16	25	36	51	220	211	89	78	74
12	33	19	23	17	24	36	54	249	209	73	80	81
13	38	21	25	17	25	34	50	289	211	76	78	82
14	35	22	24	19	24	33	50	297	200	69	78	80
15	33	20	25	23	24	31	52	294	196	73	71	67
16	32	21	25	23	23	32	49	279	177	74	68	64
17	30	21	23	24	25	37	52	240	160	73	67	63
18	30	20	21	22	26	40	57	222	128	70	64	62
19	28	19	21	19	25	35	58	210	130	66	67	60
20	27	19	20	20	22	33	59	212	117	61	66	56
21	27	19	21	20	25	32	61	208	119	58	68	56
22	29	20	19	20	27	33	60	224	103	60	66	58
23	28	20	19	22	27	34	55	229	113	59	63	60
24	27	19	18	26	28	35	56	225	107	70	61	59
25	26	18	19	18	30	35	60	228	116	76	49	52
26	25	18	21	18	30	33	61	234	122	63	48	48
27	23	17	19	19	27	33	71	229	134	66	37	60
28	22	17	18	26	29	33	74	219	139	59	37	67
29	22	18	21	49	- - - - -	36	79	217	126	51	38	72
30	21	19	20	49	- - - - -	37	80	197	121	54	49	70
31	22	- - - - -	20	38	- - - - -	38	- - - - -	177	- - - - -	52	56	- - - - -
Total	996	599	734	685	747	1,039	1,627	5,894	4,977	2,554	2,091	1,935
Mean	32.1	20.0	23.7	22.1	26.7	33.5	54.2	190	166	82.4	67.5	64.5
Max	48	22	38	49	35	40	80	297	216	135	94	82
Min	21	17	18	16	22	29	41	73	103	51	37	48
Ac-ft	1,980	1,190	1,460	1,360	1,480	2,060	3,230	11,690	9,870	5,070	4,150	3,840

Cal yr 1966: Total 17,848 Mean 48.9 Max 173 Min 17 Ac-ft 35,400
Wtr yr 1967: Total 23,878 Mean 65.4 Max 297 Min 16 Ac-ft 47,360

Peak discharge (base, 350 cfs).--No peak above base.

13-2750. Burnt River at Huntington, Oreg.

Location.--Lat 44°21'30", long 117°16'20", in NE¼ sec.13, T.14 S., R.44 E., on right bank 0.5 mile northwest of Huntington and at mile 2.9.

Drainage area.--1,093 sq mi.

Records available.--September 1928 to September 1932, October 1956 to September 1959, June 1962 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,104.75 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Sept. 13, 1928 to Sept. 30, 1932, staff gage at site 200 ft upstream at different datum. Oct. 1, 1956 to Sept. 30, 1959, graphic water-stage recorder, Oct. 1, 1959 to Aug. 20, 1962, peak-stage indicator, Aug. 21, 1962 to Aug. 31, 1965, graphic water-stage recorder, all at present site and datum.

Average discharge.--12 years (1928-32, 1956-59, 1963-67) 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum discharge during year, 434 cfs Jan. 29 (gage height, 2.74 ft); minimum, 15 cfs Dec. 27.

1928-32, 1956-67: Maximum discharge, 2,220 cfs Dec. 22, 1964 (gage height, 5.94 ft); maximum gage height, 6.80 ft Feb. 3, 1963, (ice jam); no flow at times.

Remarks.--Records good. Flow regulated since 1938 by Unity Reservoir (see sta. no. 2725). Diversions for irrigation of 28,000 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	35	39	39	122	58	82	119	212	95	36	40
2	28	35	43	38	106	61	82	119	226	85	32	40
3	22	35	68	40	97	63	80	115	205	85	34	38
4	27	35	62	42	93	59	79	109	202	84	36	39
5	31	34	69	42	88	58	79	108	198	95	38	40
6	34	35	65	36	80	59	82	88	241	92	45	45
7	34	34	62	41	77	58	84	85	232	84	50	54
8	36	34	58	40	73	59	84	93	210	86	56	56
9	36	34	51	36	71	60	85	118	218	85	53	56
10	37	37	52	36	70	64	87	180	208	82	49	56
11	38	41	50	39	69	70	88	220	202	75	50	54
12	47	42	51	40	68	67	98	256	208	70	50	61
13	50	41	60	40	68	68	98	293	210	61	52	62
14	51	42	66	43	66	65	93	313	205	59	52	67
15	50	39	60	44	63	63	93	301	200	57	55	69
16	47	33	56	50	61	62	92	277	188	56	52	63
17	46	34	51	50	61	76	92	262	170	58	51	60
18	44	35	52	46	62	79	102	259	148	61	52	59
19	43	34	51	48	62	81	100	238	142	55	43	60
20	42	34	50	48	58	77	98	218	144	52	44	59
21	41	33	49	52	52	77	100	218	136	47	43	57
22	43	36	39	52	54	75	98	223	125	44	45	56
23	44	37	34	41	57	76	95	238	116	41	46	56
24	43	36	32	36	58	76	90	223	120	38	43	56
25	41	36	36	44	59	74	90	212	118	40	39	56
26	41	36	38	51	60	72	92	218	123	44	42	52
27	41	35	38	53	60	69	96	208	122	43	43	48
28	40	36	37	69	59	69	109	200	125	43	41	52
29	38	39	34	278	------	71	115	205	112	43	37	56
30	38	38	36	197	------	69	117	202	98	43	36	62
31	37	------	37	159	------	79	------	198	------	39	38	------
TOTAL	1,220	1,085	1,526	1,870	1,974	2,114	2,780	6,116	5,164	1,942	1,383	1,629
MEAN	39.4	36.2	49.2	60.3	70.5	68.2	92.7	197	172	62.6	44.6	54.3
MAX	51	42	69	278	122	81	117	313	241	95	56	69
MIN	22	33	32	36	52	58	79	85	98	38	32	38
AC-FT	2,420	2,150	3,030	3,710	3,920	4,190	5,510	12,130	10,240	3,850	2,740	3,230

CAL YR 1966: TOTAL 19,766 MEAN 54.2 MAX 266 MIN 14 AC-FT 39,210
WAT YR 1967: TOTAL 23,803 MEAN 78.9 MAX 313 MIN 22 AC-FT 57,130

Peak discharge (base, 500 cfs).--No peak above base.

13-2753. Powder River near Sumpter, Oreg.

Location.--Lat 44°40'10", long 118°00'10", in NE¼NE¼ sec.25, T.10 S., R.38 E., on left bank 1,200 ft downstream from Mason Damsite, 1.4 miles upstream from California Gulch, 10.9 miles southwest of Baker, and at mile 123.2.

Drainage area.--170 sq mi at cableway, 0.5 mile downstream.

Records available.--April 1965 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 3,898.47 ft above mean sea level (Bureau of Reclamation bench mark). Prior to July 29, 1965, staff gage at datum 1.03 ft higher.

Extremes.--Maximum discharge during year, 874 cfs May 24 (gage height, 4.17 ft); minimum, 0.85 cfs Oct. 17.

1965-67: Maximum discharge observed, 971 cfs Apr. 30, 1965 (gage height, 4.43 ft); minimum, 0.10 cfs Aug. 20, 1966.

Maximum discharge, 1,600 cfs (approximation) Mar. 20, 1910, based on comparison with records for station downstream, near Baker.

Remarks.--Records fair. No regulation. Many small diversions for irrigation above station. Records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.1	8.2	30	16	90	57	87	78	425	156	11	3.6
2	2.4	8.2	31	14	78	59	79	75	430	141	11	3.4
3	2.4	9.1	36	16	72	61	75	76	410	132	11	3.4
4	2.6	9.1	33	16	68	49	78	87	402	117	11	3.4
5	2.4	6.9	39	14	69	52	82	106	402	106	10	3.4
6	2.4	7.9	32	15	61	54	87	139	406	95	9.1	3.6
7	2.4	8.5	30	14	61	54	89	218	435	79	8.2	3.4
8	2.4	8.2	26	14	58	57	90	299	450	75	8.2	3.6
9	3.6	9.1	24	15	60	59	97	390	450	68	7.6	4.4
10	3.2	9.8	26	16	57	65	106	429	406	61	6.9	3.8
11	3.4	10	30	17	54	63	126	332	390	60	6.3	4.0
12	4.0	16	34	16	54	53	119	266	386	52	6.3	4.4
13	4.7	18	46	20	52	46	117	214	363	43	6.3	4.4
14	4.7	23	44	26	50	48	119	188	346	40	6.0	4.2
15	5.2	24	39	34	48	52	108	203	386	36	5.7	4.2
16	5.7	28	30	28	47	79	99	292	420	32	5.5	4.0
17	4.3	29	30	24	49	108	87	445	430	34	5.5	3.8
18	5.5	23	32	22	52	100	87	577	430	32	5.5	3.6
19	6.3	21	32	28	47	93	79	612	420	32	5.5	3.4
20	6.3	21	32	30	43	99	75	619	406	29	5.5	3.2
21	7.6	22	24	22	44	100	73	650	415	26	4.7	3.2
22	8.8	24	16	13	44	104	69	740	390	27	4.5	2.8
23	8.5	24	14	15	46	106	65	824	325	23	4.3	2.8
24	7.9	20	13	16	46	111	72	860	296	20	4.2	2.8
25	8.2	19	15	14	50	108	76	770	269	18	4.2	2.8
26	7.6	18	14	19	49	100	82	572	251	18	4.2	2.8
27	7.6	19	12	38	50	93	87	485	236	16	4.4	2.8
28	7.6	20	14	78	54	92	84	500	218	15	4.4	2.8
29	7.6	21	15	128	------	89	84	530	192	16	4.2	3.2
30	8.2	23	14	147	------	84	81	490	174	14	4.0	3.6
31	7.9	------	14	113	------	87	------	406	------	13	3.8	------
TOTAL	163.5	508.0	821	998	1,553	2,382	2,659	12,472	10,959	1,626	199.0	104.8
MEAN	5.27	16.9	26.5	32.2	55.5	76.8	88.6	402	365	52.5	6.42	3.49
MAX	8.8	29	46	147	90	111	126	860	450	156	11	4.4
MIN	2.1	6.9	12	13	43	46	65	75	174	13	3.8	2.8
AC-FT	324	1,010	1,630	1,980	3,080	4,720	5,270	24,740	21,740	3,230	395	208

CAL YR 1966: TOTAL 20,300.5 MEAN 55.6 MAX 368 MIN 1.3 AC-FT 40,270
WAT YR 1967: TOTAL 34,445.3 MEAN 94.4 MAX 860 MIN 2.1 AC-FT 68,320

Peak discharge (base, 280 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-10	0930	3.57	445				
5-24	0700	4.17	874				
6-17	2300	3.45	460				

Note.--No gage-height record Aug. 24 to Sept. 30.

13-2755. Powder River near Baker, Oreg.

Location.--Lat 44°39'20", long 117°52'30", in NE¼ sec.36, T.10 S., R.39 E., on right bank 700 ft downstream from Stices Gulch, 8.5 miles south of Baker, and at mile 116.2.

Drainage area.--219 sq mi.

Records available.--December 1903 to August 1914, July 1926 to September 1967. Monthly discharge only for some periods, published in WSP 1317. Published as "near Baker City" December 1903 to December 1905, and as "at Salisbury" January 1906 to August 1914, October 1928 to September 1951.

Gage.--Digital water-stage recorder and concrete-filled bag control. Datum of gage is 3,632.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Dec. 20, 1903, to Feb. 29, 1912, staff gage at site 400 ft upstream at different datum. Mar. 1, 1912, to Aug. 1, 1914, and June 16, 1926, to Oct. 15, 1933, staff gage at site 0.4 mile downstream at different datum. Oct. 16, 1933, to Sept. 3, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--50 years (1904-13, 1926-67) 111 cfs (80,360 acre-ft per year).

Extremes.--Maximum discharge during year, 895 cfs May 23 (gage height, 4.75 ft); minimum, 1.6 cfs Sept. 7.

1903-14, 1926-67: Maximum discharge, 1,820 cfs Mar. 20, 1910 (gage height, 7.05 ft, site and datum then in use); no flow Aug. 31, 1909, Sept. 7, 1931.

Remarks.--Records good except those for periods of ice effect in January, which are fair. No regulation. Many small diversions for irrigation above station. At times Auburn ditch diverts water into basin above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.3	6.6	29	19	108	72	108	104	470	152	10	3.5
2	2.5	6.7	34	17	102	76	106	104	481	139	10	3.3
3	2.6	6.9	40	19	94	69	104	104	462	135	9.5	3.3
4	2.5	7.3	37	19	87	58	104	106	449	122	9.5	3.3
5	2.5	6.5	47	17	87	63	106	118	451	114	9.5	3.3
6	2.4	7.0	35	18	78	67	106	145	454	108	8.3	3.5
7	2.6	7.0	33	17	76	69	108	234	478	94	7.5	3.1
8	2.5	7.0	26	17	72	70	110	371	489	85	7.1	3.5
9	2.7	7.4	21	18	74	76	116	492	492	78	7.1	4.8
10	2.9	8.6	22	20	70	83	122	545	454	70	6.8	3.7
11	2.9	8.6	28	20	67	83	137	449	432	65	6.5	4.1
12	3.5	14	31	19	65	70	139	358	435	62	6.2	4.5
13	4.1	17	47	22	65	60	135	283	406	51	5.9	4.5
14	5.1	21	57	30	58	63	137	240	374	34	5.9	4.3
15	4.5	23	40	40	56	65	124	250	414	38	5.3	4.1
16	4.4	27	30	34	55	102	116	361	451	30	5.0	4.1
17	4.7	31	32	30	58	134	108	542	465	33	5.0	3.9
18	4.0	24	34	26	67	118	108	682	470	30	4.8	3.7
19	4.7	20	34	36	56	112	106	712	462	29	4.8	3.3
20	4.9	21	33	30	51	116	104	709	443	28	5.0	3.3
21	5.3	21	25	22	50	118	106	730	449	25	5.3	3.3
22	5.9	24	18	17	50	124	106	802	432	26	5.0	3.1
23	6.9	25	17	18	53	126	104	877	353	23	4.8	2.9
24	6.8	22	16	19	56	132	106	886	311	20	4.3	2.9
25	6.6	19	18	18	62	126	106	814	275	18	4.3	2.9
26	6.6	17	17	24	62	120	104	635	252	17	4.3	2.9
27	6.6	17	15	34	62	112	108	525	230	16	4.5	2.8
28	6.5	19	16	79	69	112	106	534	207	14	4.3	2.9
29	6.5	21	18	135	------	108	104	564	183	16	4.1	3.1
30	6.6	23	17	163	------	106	104	531	163	14	3.9	3.7
31	6.5	------	17	130	------	106	------	465	------	12	3.5	------
TOTAL	139.1	485.6	884	1,127	1,910	2,916	3,358	14,272	11,887	1,698	188.0	105.6
MEAN	4.49	16.2	28.5	36.4	68.2	94.1	112	460	396	54.8	6.06	3.52
MAX	6.9	31	57	163	108	134	139	886	492	152	10	4.8
MIN	2.3	6.5	15	17	50	58	104	104	163	12	3.5	2.8
AC-FT	276	963	1,750	2,240	3,790	5,780	6,660	28,310	23,580	3,370	373	209

CAL YR 1966: TOTAL 21,271.80 MEAN 58.3 MAX 421 MIN .60 AC-FT 42,190
WAT YR 1967: TOTAL 38,970.3 MEAN 107 MAX 886 MIN 2.3 AC-FT 77,300

Peak discharge (base, 340 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-10	1630	3.62	562				
5-23	2300	4.75	895				
6-18	0130	3.37	492				

13-2867. Powder River near Richland, Oreg.

Location.--Lat 44°46'40", long 117°17'30", in SE¼ sec.14, T.9 S., R.44 E., on left bank 0.4 mile upstream from Upper Timber Canyon, 6 miles west of Richland, and at mile 20.3.

Drainage area.--1,310 sq mi, approximately.

Records available.--October 1957 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,277.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 226 cfs (163,600 acre-ft per year).

Extremes.--Maximum discharge during year, 1,060 cfs May 24 (gage height, 3.44 ft); minimum, 6.4 cfs Sept. 27.

1957-67: Maximum discharge, 3,470 cfs Jan. 31, 1965 (gage height, 6.68 ft); maximum gage height, 7.10 ft Feb. 3, 1963 (ice jam); minimum discharge, 0.80 cfs Aug. 11, 12, 1966.

Remarks.--Records good except those for periods of ice effect in January and period of no gage-height record, which are fair. Slight regulation by several reservoirs, the largest being Thief Valley Reservoir (capacity 17,400 acre-ft). Many diversions above station for irrigation above and below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.4	16	65	55	247	182	256	179	594	344	37	50
2	9.4	16	80	48	200	182	250	156	548	284	42	25
3	9.9	16	95	55	173	177	238	157	509	260	43	31
4	9.9	17	90	55	158	168	224	166	482	225	39	40
5	9.9	15	110	48	144	158	223	170	489	208	40	38
6	10	16	90	50	130	148	216	170	545	159	39	37
7	11	16	80	50	123	160	213	206	547	124	40	51
8	9.4	17	70	48	119	153	219	315	552	112	39	52
9	10	17	55	50	204	158	225	462	590	108	42	43
10	11	18	50	55	231	169	222	616	595	96	42	40
11	10	20	60	55	233	191	216	640	601	90	38	40
12	10	26	75	55	210	189	225	576	584	92	39	54
13	10	36	100	60	208	176	197	493	596	117	42	58
14	11	44	120	60	206	174	177	389	482	78	42	52
15	11	50	110	65	194	172	161	334	399	76	39	54
16	10	60	90	65	185	167	152	326	362	68	30	50
17	11	70	77	70	186	235	134	362	408	71	27	50
18	10	60	72	80	202	334	140	474	424	58	30	48
19	11	46	70	88	200	356	149	561	512	55	22	40
20	12	50	66	87	182	340	135	565	589	50	9.4	37
21	13	50	62	65	177	326	102	565	743	50	11	32
22	14	55	55	48	173	318	89	717	851	50	29	28
23	15	60	50	50	176	315	75	914	918	51	37	24
24	16	55	46	60	180	322	76	1,040	921	55	38	24
25	16	48	50	70	184	320	84	1,010	836	55	52	21
26	16	44	50	81	184	315	107	927	730	50	51	15
27	16	42	44	98	174	304	143	877	653	48	48	7.4
28	15	46	46	292	178	294	174	827	593	38	47	9.4
29	15	50	50	700	------	297	204	777	520	36	37	16
30	15	55	48	549	------	282	188	725	446	33	40	18
31	15	------	48	335	------	261	------	651	------	39	42	------
TOTAL	371.9	1,131	2,174	3,547	5,161	7,343	5,214	16,347	17,619	3,180	1,153.4	1,084.8
MEAN	12.0	37.7	70.1	114	184	237	174	527	587	103	37.2	36.2
MAX	16	70	120	700	247	356	256	1,040	921	344	52	58
MIN	9.4	15	44	48	119	148	75	156	362	33	9.4	7.4
AC-FT	738	2,240	4,310	7,040	10,240	14,560	10,340	32,420	34,950	6,310	2,290	2,150

CAL YR 1966: TOTAL 38,536.60 MEAN 106 MAX 735 MIN .90 AC-FT 76,480
WAT YR 1967: TOTAL 64,326.1 MEAN 176 MAX 1,040 MIN 7.4 AC-FT 127,600

Note.--No gage-height record Oct. 13 to Dec. 14.

13-2882. Eagle Creek above Skull Creek, near New Bridge, Oreg.

Location.--Lat 44°52'50", long 117°15'10", in SE¼ sec.7, T.8 S., R.45 E., on left bank 0.5 mile upstream from Skull Creek and 6.5 miles northwest of New Bridge.

Drainage area.--156 sq mi.

Records available.--October 1957 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Oct. 22, 1957, to Sept. 2, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 317 cfs (229,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,210 cfs May 22 (gage height, 3.62 ft); minimum, 57 cfs Jan. 23.

1957-67: Maximum discharge, 2,690 cfs May 27, 1958 (gage height, 4.02 ft); maximum gage height, 6.88 ft Jan. 25, 1962 (ice jam); minimum daily discharge, 44 cfs Dec. 17, 1964.

Remarks.--Records excellent. No regulation. Some diversions above station for irrigation and one small interbasin diversion for irrigation supply. All diversions are small compared to flow at station during irrigation season.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	65	73	159	90	181	105	148	166	1,020	1,150	194	107
2	69	72	148	90	161	104	141	173	1,060	1,110	182	104
3	72	73	160	90	148	99	143	188	1,080	1,120	176	104
4	67	72	140	90	140	96	153	197	1,110	1,010	170	102
5	65	73	130	86	133	103	165	217	1,140	915	177	102
6	65	79	124	85	127	108	173	280	1,550	842	174	107
7	63	73	118	85	123	107	187	411	1,560	775	170	102
8	63	71	109	84	119	108	210	557	1,470	724	166	99
9	63	71	100	83	119	109	221	705	1,390	681	160	99
10	63	75	110	81	119	114	224	691	1,330	621	157	97
11	63	76	112	82	114	111	233	557	1,300	596	154	107
12	67	84	113	84	110	103	253	481	1,190	591	151	104
13	66	109	123	93	110	108	268	426	1,080	577	148	97
14	65	143	117	114	106	102	244	406	1,250	527	144	92
15	65	130	111	110	104	100	224	504	1,490	479	141	90
16	63	194	109	108	109	112	211	699	1,590	443	138	87
17	63	145	106	103	109	148	202	993	1,650	488	135	85
18	63	121	105	96	104	153	201	1,160	1,700	455	132	82
19	62	113	102	100	93	153	191	1,170	1,860	396	129	82
20	63	122	100	97	93	163	184	1,300	1,850	359	129	80
21	64	124	97	98	95	161	176	1,580	1,840	329	126	78
22	73	125	91	93	97	163	171	1,870	1,550	299	121	78
23	76	105	85	80	100	173	173	1,890	1,280	284	121	76
24	80	106	85	85	98	184	178	1,690	1,200	271	115	92
25	81	105	85	90	99	180	183	1,460	1,190	259	112	92
26	80	101	85	98	97	173	182	1,280	1,290	246	118	90
27	78	100	75	110	99	167	184	1,240	1,320	235	115	85
28	74	103	85	174	103	170	178	1,320	1,280	225	115	82
29	72	107	90	363	------	164	173	1,320	1,260	215	112	85
30	74	112	85	280	------	156	170	1,130	1,260	208	110	92
31	78	------	80	221	------	151	------	961	------	201	110	------
TOTAL	2,125	3,057	3,339	3,543	3,210	4,148	5,744	27,022	41,140	16,631	4,402	2,779
MEAN	68.5	102	108	114	115	134	191	872	1,371	536	142	92.6
MAX	81	194	160	363	181	184	268	1,890	1,860	1,150	194	107
MIN	62	71	75	80	93	96	141	166	1,020	201	110	76
AC-FT	4,210	6,060	6,620	7,030	6,370	8,230	11,390	53,600	81,600	32,990	8,730	5,510

CAL YR 1966: TOTAL 76,369 MEAN 209 MAX 1,300 MIN 58 AC-FT 151,500
WAT YR 1967: TOTAL 117,140 MEAN 321 MAX 1,890 MIN 62 AC-FT 232,300

Peak discharge (base, 1,700 cfs).--May 22 (2230 hrs) 2,210 cfs (3.62 ft); June 19 (2000 hrs) 2,130 cfs (3.55 ft).

13-2897. Brownlee Reservoir at Brownlee Dam, Idaho-Oregon State line

Location.--Lat 44°50'10", long 116°54'00", in SE¼ sec.2, T.17 N., R.5 W., at Brownlee Dam on Snake River near Idaho end of dam, 1.1 miles upstream from Wildhorse River, 3½ miles downstream from Brownlee Creek, 10½ miles east of Halfway, Oreg., and at mile 285.0.

Drainage area.--72,590 sq mi, approximately.

Records available.--May 1958 to September 1967. Published as "at Idaho-Oregon State line" 1958-59.

Gage.--Remote registering water-stage recorder checked periodically by levels to water surface. Datum of gage is mean sea level, Idaho Power Co. datum. Prior to Feb. 2, 1959, staff gage or levels to water surface at present site and datum.

Extremes.--Maximum contents during year, 1,444,100 acre-ft Oct. 4 (elevation, 2,078.24 ft); minimum, 727,400 acre-ft Apr. 21 (elevation, 2,013.46 ft).

1958-67: Maximum contents, 1,453,500 acre-ft Aug. 6, 1962 (elevation, 2,078.91 ft); minimum since full capacity was attained June 23, 1959, 446,300 acre-ft May 11, 1965 (elevation, 1,975.98 ft).

Remarks.--Reservoir is formed by earth-fill dam. Storage began May 5, 1958. Dam was completed in fall of 1958. Normal pool elevation, 2,077 ft. Water is used for power generation.

Cooperation.--Water-stage recorder graph and capacity table furnished by Idaho Power Co.

Capacity table (elevation, in feet, and contents, in acre-feet)

2,013.0	723,400	2,050.0	1,080,100
2,020.0	786,400	2,060.0	1,198,000
2,030.0	880,600	2,070.0	1,330,200
2,040.0	977,100	2,080.0	1,468,800

Contents, in thousands of acre-feet, at 2400, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,437.9	1,427.1	1,406.8	1,356.9	1,165.2	914.0	788.4	788.4	1,083.4	1,417.4	1,420.1	1,431.3
2	1,441.8	1,421.8	1,405.4	1,357.9	1,157.4	910.4	786.3	796.0	1,101.5	1,433.7	1,416.0	1,431.3
3	1,442.1	1,419.7	1,409.3	1,358.1	1,147.0	904.2	776.6	804.5	1,129.2	1,427.3	1,413.9	1,433.8
4	1,440.6	1,421.1	1,417.6	1,356.9	1,134.5	903.3	764.6	808.6	1,156.4	1,437.1	1,412.5	1,436.9
5	1,439.0	1,425.2	1,416.8	1,354.9	1,118.1	904.6	761.2	810.4	1,174.9	1,434.8	1,412.1	1,438.0
6	1,436.8	1,430.5	1,417.6	1,343.1	1,100.0	900.3	756.3	806.2	1,197.4	1,429.9	1,417.5	1,436.1
7	1,435.1	1,429.2	1,412.1	1,333.7	1,081.5	895.2	755.8	813.5	1,227.2	1,431.6	1,416.5	1,433.6
8	1,435.2	1,425.6	1,402.5	1,327.2	1,068.1	889.5	757.1	805.4	1,246.7	1,435.4	1,414.8	1,426.3
9	1,438.0	1,423.8	1,392.9	1,316.2	1,050.7	885.0	762.5	794.3	1,268.1	1,437.3	1,414.0	1,423.4
10	1,435.1	1,423.8	1,387.8	1,306.1	1,034.5	881.9	763.0	792.3	1,293.3	1,435.4	1,410.7	1,424.3
11	1,431.3	1,421.5	1,388.0	1,296.2	1,020.3	888.7	765.7	790.9	1,326.9	1,434.1	1,405.1	1,425.4
12	1,429.8	1,424.6	1,383.2	1,289.2	1,006.1	893.9	766.6	789.1	1,346.2	1,431.2	1,403.2	1,425.9
13	1,425.4	1,435.9	1,382.9	1,280.4	996.1	891.1	754.9	786.3	1,368.6	1,426.7	1,410.4	1,424.5
14	1,427.7	1,435.9	1,386.4	1,275.3	989.7	882.5	747.1	779.7	1,389.0	1,422.6	1,414.1	1,424.0
15	1,434.4	1,432.4	1,383.6	1,276.2	984.8	880.8	739.0	770.3	1,401.6	1,416.4	1,414.3	1,423.9
16	1,439.3	1,430.9	1,380.9	1,268.1	982.2	876.6	743.9	777.7	1,410.2	1,422.0	1,416.0	1,422.2
17	1,436.5	1,427.7	1,380.9	1,260.3	981.3	869.2	747.2	785.9	1,410.4	1,421.1	1,414.8	1,424.0
18	1,433.8	1,423.2	1,381.7	1,250.5	977.5	875.9	735.3	798.8	1,404.8	1,421.7	1,419.2	1,421.7
19	1,433.0	1,423.8	1,379.9	1,238.9	976.2	882.5	734.6	816.2	1,394.1	1,415.7	1,422.6	1,420.0
20	1,430.3	1,425.2	1,381.1	1,225.6	970.1	874.1	731.0	834.4	1,388.7	1,412.9	1,429.9	1,419.0
21	1,423.4	1,421.8	1,378.5	1,216.3	961.7	863.5	729.2	854.2	1,397.5	1,411.9	1,434.1	1,415.4
22	1,425.2	1,419.2	1,373.8	1,212.9	951.1	856.9	740.2	872.4	1,408.6	1,410.4	1,432.7	1,412.5
23	1,432.6	1,414.1	1,368.4	1,202.2	939.6	848.2	750.5	891.3	1,415.7	1,417.4	1,430.2	1,411.4
24	1,435.9	1,418.3	1,368.9	1,188.3	930.2	838.5	753.5	918.0	1,424.7	1,415.8	1,427.4	1,420.7
25	1,437.6	1,415.4	1,371.6	1,176.6	928.3	834.4	757.0	947.7	1,422.2	1,413.6	1,427.7	1,418.1
26	1,434.8	1,413.6	1,374.4	1,164.2	927.3	843.7	762.4	973.0	1,421.7	1,414.6	1,435.7	1,420.0
27	1,433.6	1,417.5	1,369.7	1,150.4	922.4	836.1	764.4	993.6	1,426.6	1,416.7	1,439.7	1,420.4
28	1,433.0	1,414.6	1,364.5	1,141.2	917.7	826.1	770.0	1,013.2	1,430.6	1,417.1	1,437.2	1,422.8
29	1,433.0	1,415.3	1,360.9	1,149.2		815.2	780.1	1,029.2	1,426.7	1,417.1	1,438.9	1,423.8
30	1,435.2	1,412.5	1,358.7	1,168.5	----------	805.2	785.4	1,044.7	1,414.3	1,421.7	1,439.4	1,427.7
31	1,430.5	----------	1,357.0	1,166.4	----------	794.6	----------	1,062.1	----------	1,423.6	1,435.9	----------
(†)	2,077.27	2,075.98	2,071.97	2,057.46	2,033.87	2,020.88	2,019.90	2,048.34	2,076.11	2,076.78	2,077.66	2,077.07
(‡)	-8.7	-18.0	-55.5	-190.6	-248.7	-123.1	-9.2	+276.7	+352.2	+9.3	+12.3	-8.2

Calendar year 1966 ..... ‡ +388.8
Water year 1966-67 ..... ‡ - 11.5

† Elevation, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

13-2901.9 Pine Creek near Oxbow, Oreg.

Location.--Lat 44°57'21", long 116°52'15", in NE¼SW¼ sec.17, T.7 S., R.48 E., 1.8 miles south of Oxbow, and at mile 1.9.

Drainage area.--230 sq mi, approximately.

Records available.--November 1966 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 1,850.48 ft above mean sea level (levels by Idaho Power Co.). Prior to Aug. 24, 1967, staff gage at site 1.7 miles downstream at different datum.

Extremes.--Maximum discharge during period, 4,040 cfs Jan. 29 (gage height, 7.00 ft, site and datum then in use); minimum, 30 cfs Sept. 1-4, 10.

Remarks.--Records fair. Diversions for irrigation of about 19,000 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		52	254	130	826	317	382	338	970	806	48	31
2		52	393	122	677	328	350	323	970	725	48	31
3		50	492	138	604	303	353	341	970	691	48	30
4		50	414	138	546	276	385	369	970	598	48	30
5		50	440	132	466	276	429	388	1,010	566	48	32
6		52	348	132	424	292	429	481	1,460	488	48	32
7		53	320	127	399	298	460	590	1,440	453	47	32
8		54	271	122	375	300	519	700	1,270	402	45	33
9		54	218	110	369	300	519	888	1,220	353	45	33
10		54	222	122	357	418	522	1,050	1,220	329	43	30
11		56	218	122	340	387	522	940	1,220	248	41	36
12		64	252	122	334	331	526	888	1,240	197	40	41
13		78	482	128	326	337	566	785	1,190	193	39	38
14		92	685	128	309	309	550	715	1,190	173	38	38
15		105	531	138	303	317	503	755	1,310	140	37	39
16		117	462	143	279	323	460	844	1,280	111	37	39
17		135	450	141	269	462	432	1,100	1,280	111	36	37
18		136	348	136	269	531	412	1,290	1,210	122	36	36
19		123	314	149	240	496	415	1,250	1,210	108	36	36
20		123	284	231	212	460	402	1,250	1,390	71	35	36
21		136	259	384	222	474	378	1,400	1,530	73	35	36
22		130	210	434	224	481	353	1,600	1,430	73	34	34
23		154	200	247	235	496	353	1,600	1,420	71	34	33
24		132	200	220	235	526	353	1,570	1,160	67	33	33
25		120	194	235	247	507	385	1,370	894	64	33	32
26		125	169	229	274	488	402	1,140	916	62	34	31
27		121	121	295	274	456	420	1,090	934	59	34	31
28		117	125	989	300	474	446	1,120	940	56	35	32
29		220	140	3,240		470	419	1,200	828	54	35	33
30		192	140	1,950	- - - - -	446	385	1,130	844	53	36	39
31		- - - - -	138	1,080	- - - - -	412	- - - - -	994	- - - - -	48	33	- - - - -
Total		2,997	9,294	12,014	9,935	12,291	13,030	29,499	34,916	7,565	1,219	1,024
Mean		99.9	300	388	355	396	434	952	1,164	244	39.3	34.1
Max		220	685	3,240	826	531	566	1,600	1,530	806	48	41
Min		50	121	110	212	276	350	323	828	48	33	30
Ac-ft		5,940	18,430	23,830	19,710	24,380	25,840	58,510	69,250	15,000	2,420	2,030

Cal yr 1966: Total Mean Max Min Ac-ft
Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1 -29	1430	7.00	4,040	5 -23	0100	4.76	1,710
5 -10	0200	3.81	1,100	6 -21	0030	4.56	1,570

13-2902. Snake River below Pine Creek, at Oxbow, Oreg.

Location.--Lat 44°58'40", long 116°51'25", in NW¼NW¼ sec.9, T.7 S., R.48 E., on left bank at Oxbow, 0.1 mile upstream from Hansaker Creek, 0.1 mile north of Oxbow school, a third of a mile downstream from Pine Creek, 3.2 miles south of Homestead, 3.8 miles downstream from Oxbow Dam, and at mile 269.65.

Drainage area.--73,150 sq mi, approximately.

Records available.--January 1958 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,668.34 ft above mean sea level, Idaho Power Co. datum. Prior to Apr. 7, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--9 years, 16, 590 cfs (12,010,000 acre-ft per year).

Extremes.--Maximum discharge during year, 36,400 cfs June 23 (gage height, 16.13 ft); minimum, 785 cfs Mar. 19 (gage height, 1.24 ft); minimum daily, 6,580 cfs Aug. 21.

1958-67: Maximum discharge, 76,800 cfs Dec. 25, 1964 (gage height, 25.07 ft); minimum, 441 cfs Mar. 12, 1961 (gage height, -0.16 ft), but may have been less when diversion tunnel at Oxbow Dam was closed Aug. 31, 1958; minimum daily, 900 cfs Aug. 31, 1958, caused by closure of diversion tunnel at Oxbow Dam, 3.8 miles upstream.

Remarks.--Records excellent. Flow regulated by Brownlee Reservoir (sta. no. 2897) and by many other reservoirs above station. Extreme diurnal fluctuation caused by Oxbow powerplant 0.6 mile upstream. Diversions for irrigation of about 2,628,000 acres (1958 determination) above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,200	15,900	16,300	13,700	22,300	15,100	14,100	8,680	15,100	19,800	10,300	14,500
2	10,500	15,000	16,400	12,000	22,800	15,100	14,400	9,510	14,600	12,400	13,100	9,670
3	12,100	15,200	11,700	13,300	22,800	16,100	16,500	9,420	9,510	19,100	11,000	9,910
4	14,200	13,200	12,500	13,000	23,100	14,500	17,900	8,870	9,670	18,600	10,200	9,690
5	13,600	10,700	17,400	13,200	21,800	11,700	15,500	12,300	15,100	17,000	10,100	11,600
6	14,100	10,700	15,700	19,100	23,600	13,800	16,200	14,300	12,600	17,500	7,970	11,800
7	14,000	14,500	17,600	17,800	24,600	14,100	14,200	9,600	15,200	14,000	9,730	13,800
8	12,500	15,100	19,000	15,300	21,700	15,200	13,600	17,400	15,500	13,000	10,700	14,200
9	11,300	14,800	19,600	18,300	22,200	14,100	12,100	21,900	17,300	13,000	10,300	14,400
10	15,800	13,400	15,000	17,800	22,300	13,800	14,900	20,500	15,300	15,200	12,100	12,100
11	15,400	14,700	13,700	17,900	20,600	9,910	14,400	21,000	9,780	14,000	13,300	12,500
12	14,100	12,800	16,700	16,800	21,300	9,840	16,400	21,200	17,100	15,300	11,600	13,500
13	13,300	11,300	14,400	16,300	19,000	13,300	19,000	20,700	14,800	15,500	7,800	15,200
14	12,400	12,100	13,700	14,800	15,900	18,200	18,400	21,100	14,700	14,500	8,520	14,500
15	10,200	15,300	17,300	12,400	14,200	14,700	17,200	21,100	16,100	12,500	8,630	14,300
16	11,600	15,400	16,200	17,300	15,100	15,100	11,800	15,200	21,800	10,200	10,300	15,000
17	16,200	15,800	14,000	17,800	14,600	18,500	16,100	14,500	25,300	10,300	9,690	12,500
18	14,500	16,500	13,700	17,100	13,700	13,800	12,000	14,000	28,000	9,890	8,320	16,100
19	14,100	13,100	14,400	19,100	13,400	7,810	12,000	14,300	31,200	11,700	8,080	14,500
20	14,900	12,000	13,600	19,300	15,500	17,600	13,700	13,000	31,200	11,500	7,600	14,000
21	16,300	16,100	14,900	19,800	17,400	18,300	13,800	15,100	31,200	11,900	6,580	13,800
22	12,100	16,500	16,100	18,700	18,200	18,700	8,130	16,000	31,900	9,730	9,890	13,500
23	9,600	14,700	16,500	20,800	17,600	19,400	7,270	18,000	33,100	8,130	11,100	12,700
24	12,900	11,300	12,700	20,000	17,300	18,700	8,410	15,000	30,700	10,600	11,500	10,000
25	13,600	14,100	11,100	22,100	13,100	16,300	8,960	14,000	31,400	11,300	10,100	12,400
26	14,600	13,500	11,600	20,800	12,600	10,600	10,600	13,800	31,600	10,300	8,430	13,000
27	14,400	11,300	14,700	22,300	15,700	18,500	11,100	14,100	23,100	9,910	8,130	11,300
28	14,200	15,600	15,400	22,700	15,100	18,500	10,200	13,600	22,200	9,200	10,000	11,700
29	14,500	13,700	14,800	23,400		20,400	10,300	14,600	25,200	9,750	9,360	11,500
30	13,200	15,000	14,700	25,200	- - - - -	20,200	9,930	14,700	28,100	8,040	11,100	11,000
31	15,000	- - - - -	13,600	24,600	- - - - -	18,300	- - - - -	14,600	- - - - -	9,670	12,200	- - - - -
Total	417,400	419,300	465,000	562,700	517,500	480,160	399,100	472,080	638,360	393,520	307,730	384,670
Mean	13,460	13,980	15,000	18,150	18,480	15,490	13,300	15,230	21,280	12,690	9,927	12,820
Max	16,300	16,500	19,600	25,200	24,600	20,400	19,000	21,900	33,100	19,800	13,300	16,100
Min	9,600	10,700	11,100	12,000	12,600	7,810	7,270	8,680	9,510	8,040	6,580	9,670
Ac-ft	827,900	831,700	922,300	1,116M	1,026M	952,400	791,600	936,400	1,266M	780,500	610,400	763,000

Cal yr 1966: Total 5,060,830 Mean 13,870 Max 32,300 Min 5,410 Ac-ft 10,040,000
Wtr yr 1967: Total 5,457,520 Mean 14,950 Max 33,100 Min 6,580 Ac-ft 10,820,000

M Expressed in thousands.

13-2904.5 Snake River at Hells Canyon Dam, Idaho-Oregon State Line

Location (revised).--Lat 45°15'05", long 116°41'50", in SE¼SE¼ sec.33, T.3 S., R.49 E. (Willamette meridian, unsurveyed), on left bank 0.2 mile upstream from Hells Canyon Creek, 0.4 mile downstream from Deep Creek, 0.6 mile downstream from Hells Canyon damsite, 15½ miles northeast of Homestead, Oreg., and at mile 247.0.

Drainage area.--73,300 sq mi, approximately.

Records available.--July 1965 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,400 ft above mean sea level (levels by Idaho Power Co.). Prior to Feb. 11, 1966, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 37,200 cfs June 23 (gage height, 73.36 ft); minimum, 1,580 cfs Mar. 19 (gage height, 59.9 ft); minimum daily, 6,550 cfs Aug. 31.

1965-67: Maximum discharge, 40,900 cfs Dec. 3, 1965 (gage height, 74.32 ft); minimum, that of Mar. 19, 1967; minimum daily, 5,830 cfs May 22, 1966.

Remarks.--Records excellent. Flow regulated by Brownlee Reservoir (see sta. no. 2897) and by many other reservoirs above station. Diversions for irrigation of about 2,628,000 acres (1958 determination) above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	12,200	15,900	16,400	14,100	23,300	15,400	14,600	8,980	15,300	23,100	10,300	14,800
2	11,100	15,200	16,700	11,300	23,200	14,900	15,200	9,430	15,000	13,400	12,600	10,700
3	11,700	15,300	12,700	13,700	23,400	16,000	15,200	9,570	10,000	18,500	12,300	10,200
4	13,500	13,400	13,000	12,800	23,300	15,100	17,800	9,390	10,100	19,800	10,700	9,880
5	14,100	11,100	16,800	13,000	22,200	12,700	16,300	11,500	15,100	18,000	10,100	11,700
6	14,200	10,200	16,400	19,000	24,200	12,400	16,000	14,300	13,000	18,300	9,280	11,800
7	14,200	14,200	17,500	17,900	25,100	14,200	14,800	10,600	15,700	15,600	8,990	13,800
8	12,800	14,500	19,400	15,900	23,200	15,300	14,100	15,500	16,000	13,400	10,700	15,000
9	11,600	15,100	19,900	18,100	22,100	14,100	12,800	22,100	18,000	12,700	10,500	14,900
10	14,700	13,300	16,300	17,400	22,700	14,100	13,800	21,700	15,700	15,500	11,600	12,600
11	15,600	14,700	13,800	18,500	21,400	10,800	14,700	21,300	10,000	14,300	13,200	12,400
12	14,200	13,700	16,500	17,000	20,800	9,930	15,300	21,000	17,300	15,600	13,400	13,700
13	13,600	11,400	15,500	16,800	19,700	11,300	19,300	21,300	15,400	16,400	8,820	16,100
14	12,500	11,100	14,900	14,800	16,400	18,400	18,300	21,600	15,000	14,800	8,090	14,400
15	10,800	14,900	16,400	13,200	14,500	15,600	18,000	21,600	17,300	12,700	8,780	15,000
16	10,600	16,000	17,100	16,600	14,800	15,100	13,100	16,000	20,900	11,100	10,600	14,900
17	15,900	15,700	14,500	17,800	14,700	18,100	15,200	15,000	27,500	10,500	10,500	14,000
18	14,900	16,600	14,000	18,100	13,700	14,700	12,700	14,800	28,300	9,940	8,250	14,800
19	14,100	13,600	14,400	18,000	13,300	8,920	11,500	14,700	32,700	11,100	8,140	15,900
20	15,000	12,100	14,100	20,100	15,700	16,000	13,400	13,500	32,600	12,000	8,650	14,200
21	16,500	15,200	14,800	19,600	16,200	18,200	15,500	15,600	32,600	11,700	6,550	14,400
22	12,700	16,600	15,900	19,400	18,000	19,000	8,810	16,600	32,600	10,200	9,210	13,300
23	10,300	15,800	16,800	21,000	17,900	19,300	7,570	18,500	34,600	9,270	11,000	13,500
24	11,700	12,200	13,800	20,200	17,700	19,300	8,440	15,400	32,000	9,450	12,200	10,900
25	13,800	13,200	11,500	22,200	13,900	16,800	9,050	14,600	32,400	11,900	10,700	12,300
26	14,200	13,800	11,000	21,000	12,600	12,100	10,400	13,900	32,700	10,400	8,840	12,600
27	14,400	11,600	14,100	22,100	15,400	16,800	10,700	14,000	26,200	10,400	9,250	12,400
28	14,200	14,800	16,200	23,500	14,900	18,300	11,000	14,500	22,400	9,180	9,420	11,900
29	14,600	14,100	14,700	25,100		20,000	10,500	14,700	26,400	9,950	9,520	11,800
30	13,600	14,900	14,900	25,800	- - - - -	20,800	10,400	14,400	29,500	8,870	11,000	11,500
31	14,600	- - - - -	13,900	25,600	- - - - -	19,000	- - - - -	15,000	- - - - -	9,070	12,300	- - - - -
Total	417,900	420,200	473,900	569,600	524,300	482,650	404,470	481,070	662,300	407,130	315,490	395,380
Mean	13,480	14,010	15,290	18,370	18,730	15,570	13,480	15,520	22,080	13,130	10,180	13,180
Max	16,500	16,600	19,900	25,800	25,100	20,800	19,300	22,100	34,600	23,100	13,400	16,100
Min	10,300	10,200	11,000	11,300	12,600	8,920	7,570	8,980	10,000	8,870	6,550	9,880
Ac-ft	828,900	833,500	940,000	1,130,000	1,040,000	957,300	802,300	954,200	1,314,000	807,500	625,800	784,200

Cal yr 1966: Total 5,100,840 Mean 13,970 Max 31,800 Min 5,830 Ac-ft 10,120,000
Wat yr 1967: Total 5,554,390 Mean 15,220 Max 34,600 Min 6,550 Ac-ft 11,020,000

13-2905. Snake River near Joseph, Idaho

Location.--Lat 45°49'02", long 116°45'12", in SW¼ sec.18, T.4 N., R.49 E. (Willamette meridian), on left bank at China Gulch, half a mile upstream from Imnaha River, 0.9 mile downstream from Divide Creek, 13 miles west of Joseph, 22 miles west of White Bird, and at mile 192.3.

Drainage area.--73,800 sq mi, approximately.

Records available.--April 1955 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 940.54 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--12 years, 18,490 cfs (13,390,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,100 cfs June 23 (gage height, 11.48 ft); minimum daily, 6,740 cfs Aug. 21.

1955-67: Maximum discharge, 80,800 cfs Dec. 26, 1964 (gage height, 20.16 ft); minimum daily, 1,050 cfs Sept. 1, 1958.

Remarks.--Records good. Flow regulated by Brownlee Reservoir (see sta. no. 2897) and by many other reservoirs above station. Diurnal fluctuation caused by Hells Canyon powerplant. Diversions for irrigation of about 2,628,000 acres (1948 determination) above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12.200	16.000	15.500	15.000	24.500	15.800	16.900	9.470	15.000	25.700	10.100	14.200
2	12.000	15.600	16.600	12.100	23.200	15.300	15.700	9.640	16.300	15.400	11.500	13.500
3	10.300	15.200	14.900	13.000	23.700	16.000	14.100	10.100	13.300	15.600	13.800	10.400
4	12.900	14.400	12.700	13.100	23.100	16.600	13.000	10.200	10.300	19.900	10.500	10.300
5	14.300	12.300	14.400	12.600	22.800	14.100	17.500	10.200	12.800	19.000	11.100	10.900
6	13.800	10.400	17.300	17.000	24.100	12.400	15.800	14.500	16.200	18.400	11.000	11.500
7	14.600	11.700	16.700	18.600	24.900	14.600	16.500	12.900	14.500	17.300	7.670	13.500
8	13.700	14.800	19.200	17.500	22.400	15.400	14.800	12.300	17.400	14.300	10.300	15.000
9	12.300	15.000	19.500	16.800	22.600	15.000	14.800	21.900	17.800	13.500	11.100	13.900
10	12.700	13.900	18.100	19.000	22.600	14.700	12.800	22.500	18.000	15.400	11.400	14.500
11	16.200	14.300	14.600	18.900	22.500	13.300	15.900	20.800	14.600	15.600	10.500	12.200
12	14.200	14.600	15.200	16.400	21.300	10.400	15.200	21.300	13.800	15.200	15.100	14.000
13	14.100	12.200	15.900	16.700	20.600	11.500	18.900	21.900	18.600	16.500	10.600	15.400
14	12.600	10.200	15.300	15.600	17.000	15.700	18.600	21.700	15.100	15.900	7.260	15.000
15	12.200	14.000	15.200	14.900	15.800	17.900	18.600	21.500	17.200	14.400	7.260	15.400
16	9.890	16.200	17.200	14.200	14.900	14.800	16.300	17.300	17.800	13.100	10.900	15.000
17	14.100	15.600	15.900	18.000	15.600	17.600	12.900	16.700	27.900	11.300	10.800	15.600
18	15.600	16.000	14.100	18.900	14.400	18.300	15.500	15.400	27.100	10.900	8.690	15.500
19	14.300	15.500	14.100	17.300	14.300	12.000	11.400	15.000	32.900	11.000	9.070	16.900
20	14.500	12.700	14.900	20.000	15.000	11.900	12.200	15.000	33.100	12.700	8.970	14.800
21	16.400	13.400	14.200	19.900	16.000	18.600	15.800	14.500	33.100	11.800	6.740	14.700
22	14.500	16.600	15.500	20.000	18.200	19.900	11.000	16.900	33.100	12.000	7.710	13.500
23	11.700	16.600	16.700	20.700	18.600	19.200	8.030	17.800	35.100	10.900	11.000	14.200
24	9.370	13.800	15.600	20.000	18.100	20.400	8.070	17.100	32.400	7.780	12.300	12.400
25	14.200	11.800	12.400	21.900	15.800	18.400	9.210	15.700	32.200	12.200	11.600	11.400
26	13.800	13.900	11.500	21.700	13.600	14.900	9.490	14.400	32.600	11.000	10.200	12.900
27	14.700	13.200	12.600	21.700	14.400	13.900	10.800	14.000	28.400	11.400	9.680	13.300
28	14.600	12.600	15.400	23.400	15.800	19.000	12.100	14.400	21.300	9.870	8.010	11.900
29	14.400	14.800	14.600	25.300		19.800	11.100	14.600	26.200	10.500	10.600	12.400
30	14.300	14.200	15.300	26.000	- - - - -	20.800	10.900	14.400	28.300	10.400	10.600	12.000
31	13.600	- - - - -	14.400	26.200	- - - - -	19.800	- - - - -	16.100	- - - - -	7.730	11.900	- - - - -
Total	418.060	421.500	475.500	572.400	535.800	498.000	418.900	490.210	672.400	426.680	317.960	406.200
Mean	13,490	14,050	15,340	18,460	19,140	16,060	13,960	15,810	22,410	13,760	10,260	13,540
Max	16,400	16,600	19,500	26,200	24,900	20,800	18,900	22,500	35,100	25,700	15,100	16,900
Min	9,370	10,200	11,500	12,100	13,600	10,400	8,030	9,470	10,300	7,730	6,740	10,300
Ac-ft	829,200	836,000	943,100	1,135,000	1,063,000	987,800	830,900	972,300	1,334,000	846,300	630,700	805,700

Cal yr 1966: Total 5,203,300 Mean 14,260 Max 28,100 Min 6,530 Ac-ft 10,320,000
Wtr yr 1967: Total 5,653,610 Mean 15,490 Max 35,100 Min 6,740 Ac-ft 11,210,000

13-2920. Imnaha River at Imnaha, Oreg.

Location.--Lat 45°33'45", long 116°50'00", in SW¼ sec.16, T.1 N., R.48 E., on left bank at Imnaha, 0.3 mile downstream from Big Sheep Creek, and at mile 19.3.

Drainage area.--622 sq mi.

Records available.--June 1928 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,941.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Aug. 6, 1934, staff gage at site a quarter of a mile upstream at different datum. Sept. 1, 1934, to Mar. 25, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--39 years, 500 cfs (362,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,720 cfs May 23 (gage height, 6.08 ft); minimum, 112 cfs Oct. 1.

1928-67: Maximum discharge, 6,650 cfs May 19, 1957 (gage height, 6.80 ft), from rating curve extended above 3,300 cfs; minimum observed, 16 cfs Nov. 22, 1931, result of freezeup; minimum daily, 25 cfs Nov. 22, 23, 1931.

Remarks.--Records excellent. Diversions for irrigation of 4,000 acres above station. Since 1934, one diversion of less than 10 cfs above station for irrigation below. Water is diverted from Big Sheep Creek and tributaries above station for irrigation of 6,500 acres in Wallowa River basin. Record of water temperatures for water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	115	132	226	197	547	228	405	626	1,610	1,760	298	144
2	126	130	282	184	463	239	374	620	1,610	1,630	286	144
3	142	128	344	187	409	234	361	631	1,640	1,770	274	144
4	136	128	333	187	367	206	390	666	1,710	1,630	264	142
5	142	128	340	189	341	217	450	703	1,670	1,520	261	142
6	142	142	316	164	312	230	450	859	2,610	1,380	255	147
7	140	135	325	188	313	229	443	1,190	3,130	1,280	249	147
8	140	135	294	180	287	226	486	1,670	2,860	1,170	243	142
9	144	128	232	177	294	235	525	2,160	2,590	1,110	234	142
10	147	130	276	174	278	250	548	2,390	2,380	1,020	228	137
11	147	130	262	173	259	246	598	1,920	2,300	946	216	147
12	159	140	254	174	258	209	609	1,690	2,190	930	213	164
13	177	149	269	176	250	190	624	1,530	2,020	882	207	149
14	175	306	277	182	244	206	630	1,470	1,990	818	204	147
15	154	262	262	184	222	215	573	1,600	2,150	754	195	144
16	135	406	256	200	233	236	537	1,950	2,230	691	192	140
17	132	351	248	198	231	510	514	2,560	2,330	719	189	137
18	130	262	241	201	218	670	511	3,160	2,340	677	183	135
19	128	231	235	209	205	625	528	2,870	2,440	610	183	132
20	128	268	231	214	167	563	518	2,850	2,540	556	177	130
21	135	327	228	213	194	534	493	3,150	2,450	520	175	126
22	135	297	180	213	188	529	479	3,730	2,370	480	170	123
23	137	265	192	162	210	572	509	3,830	1,980	450	167	123
24	137	239	214	149	195	643	555	3,330	1,840	425	162	121
25	140	237	218	231	202	608	584	2,610	1,770	405	159	121
26	140	230	219	212	201	549	628	2,200	1,810	385	159	121
27	140	211	204	205	199	505	663	2,000	1,950	370	159	119
28	135	211	177	264	209	483	678	2,040	1,820	350	159	117
29	132	209	208	723	------	469	679	2,060	1,780	338	154	119
30	130	203	198	958	------	427	662	1,930	1,850	322	154	137
31	135	------	197	699	------	418	------	1,710	------	306	152	------
TOTAL	4,335	6,250	7,738	7,767	7,496	11,701	16,004	61,705	63,960	26,204	6,321	4,083
MEAN	140	208	250	251	268	377	533	1,990	2,132	845	204	136
MAX	177	406	344	958	547	670	679	3,830	3,130	1,770	298	164
MIN	115	128	177	149	167	190	361	620	1,610	306	152	117
AC-FT	8,600	12,400	15,350	15,410	14,870	23,210	31,740	122,400	126,900	51,970	12,540	8,100

CAL YR 1966: TOTAL 145,861 MEAN 400 MAX 1,960 MIN 92 AC-FT 289,300
WAT YR 1967: TOTAL 223,564 MEAN 613 MAX 3,830 MIN 115 AC-FT 443,400

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-10	0530	4.86	2,520	6- 7	0030	5.41	3,470
5-23	0300	6.08	4,720	6-20	0400	5.03	2,820

13-3188. Grande Ronde River at Hilgard, Oreg.

Location.--Lat 45°20'21", long 118°14'35", in NE¼NE¼ sec.1, T.3 S., R.36 E., on left bank 8.8 miles northwest of La Grande, 1.6 miles upstream from Fivepoint Creek, and at mile 171.3.

Drainage area.--555 sq mi.

Records available.--October 1966 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,993.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum discharge during year, 1,930 cfs May 23 (gage height, 5.09 ft); minimum, 13 cfs Sept. 2, 3.

Flood of January 30, 1965, reached a stage of about 9 ft, from floodmark.

Records.--Records good. Slight regulation by city of La Grande reservoir on Beaver Creek (capacity, about 900 acre-ft). Diversions for irrigation of about 400 acres above station. Since 1909, city of La Grande has diverted about 3 cfs from Beaver Creek above station for domestic water supply.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	27	98	88	499	228	327	405	688	154	30	15
2	20	26	142	78	424	233	293	413	667	145	29	14
3	28	26	154	82	366	215	305	425	635	142	27	14
4	27	25	141	82	346	176	322	477	614	133	26	14
5	23	25	145	73	344	187	362	524	606	121	25	15
6	21	31	115	78	300	198	376	582	602	102	24	16
7	20	33	109	82	294	193	408	731	564	94	24	17
8	20	31	105	77	256	191	480	935	543	88	24	17
9	19	28	89	76	269	209	510	1,230	508	84	23	17
10	19	39	94	76	237	200	513	1,450	475	81	22	16
11	19	42	100	75	208	195	552	1,270	444	75	22	18
12	22	51	99	73	191	149	550	1,180	419	71	22	20
13	25	54	341	93	209	150	544	1,180	407	69	22	28
14	25	51	533	232	176	151	556	1,130	373	63	20	23
15	23	58	352	433	163	173	505	1,070	359	59	19	21
16	24	97	279	543	162	323	456	1,180	348	56	18	19
17	22	97	227	414	178	656	416	1,460	336	61	17	18
18	23	70	203	312	203	656	402	1,650	368	58	17	17
19	22	60	181	299	181	594	381	1,580	332	52	17	17
20	23	59	170	357	180	542	357	1,560	359	49	16	17
21	25	82	157	335	176	566	335	1,650	383	46	16	17
22	33	75	100	266	164	568	317	1,790	395	44	15	17
23	38	64	94	185	177	702	314	1,760	356	42	15	16
24	39	54	92	196	177	757	392	1,490	296	39	15	16
25	37	56	92	241	208	628	472	1,210	265	37	15	16
26	33	72	92	216	178	537	501	1,010	241	36	15	16
27	32	59	92	209	191	464	511	914	223	35	15	16
28	31	64	93	390	220	429	494	910	204	34	15	16
29	28	73	100	890	------	419	458	962	185	34	15	15
30	28	79	91	941	------	369	435	857	168	33	15	18
31	27	------	91	668	------	348	------	761	------	31	15	------
TOTAL	794	1,608	4,771	8,160	6,677	11,406	12,844	33,746	12,363	2,168	610	522
MEAN	25.6	53.6	154	263	238	368	428	1,089	412	69.9	19.7	17.4
MAX	39	97	533	941	499	757	556	1,790	688	154	30	28
MIN	18	25	89	73	162	149	293	405	168	31	15	14
AC-FT	1,570	3,190	9,460	16,190	13,240	22,620	25,480	66,930	24,520	4,300	1,210	1,040

CAL YR 1966: TOTAL	MEAN	MAX	MIN	AC-FT
WAT YR 1967: TOTAL 95,669	MEAN 262	MAX 1,790	MIN 14	AC-FT 189,800

Peak discharge (base, 1,700 cfs).--May 23 (0230 hrs) 1,930 cfs (5.09 ft).

13-3190. Grande Ronde River at La Grande, Oreg.

Location.--Lat 45°20'47", long 118°07'26", in NW¼SE¼ sec.36, T.2 S., R.37 E., on right bank 1.8 miles northwest of La Grande, 5.7 miles downstream from Fivepoint Creek, and at mile 164.0.

Drainage area.--678 sq mi.

Records available.--October 1903 to September 1915, February 1918 to September 1923, October 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1317. Published as "at Hilgard" 1903-15.

Gage.--Digital water-stage recorder. Datum of gage is 2,826.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Nov. 6, 1903, to Sept. 30, 1915, staff gage at site 5.5 miles upstream, 0.2 mile downstream from Fivepoint Creek, at various datums. Feb. 16, 1918, to June 28, 1923, and Oct. 1, 1925, to Nov. 24, 1931, staff gage at site 0.7 mile downstream at various datums. Nov. 24, 1931 to June 10, 1964, graphic water-stage recorder, and June 11, 1964 to Oct. 8, 1965 digital water-stage recorder, at site 0.3 mile upstream at datum 4.61 ft higher.

Average discharge.--59 years, 378 cfs (273,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,300 cfs May 23 (gage height, 5.33 ft); minimum, 11 cfs Sept. 2, 3.

1903-15, 1918-23, 1925-67: Maximum discharge, 14,100 cfs Jan. 30, 1965 (gage height, 11.44 ft), from rating curve extended above 7,200 cfs; minimum, 3.9 cfs Aug. 26, 1940.

Remarks.--Records good. Since 1915, slight regulation by city of La Grande reservoir on Beaver Creek (capacity, about 900 acre-ft). Diversions for irrigation of about 400 acres above station. Since 1909, city of La Grande has diverted about 3 cfs from Beaver Creek above station for domestic water supply.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	34	132	104	716	358	474	572	822	160	32	12
2	26	33	240	91	603	362	424	582	794	150	31	12
3	36	33	254	97	512	334	442	603	755	140	29	12
4	34	32	232	99	478	287	474	672	722	132	28	12
5	30	32	229	91	474	287	537	744	700	119	28	12
6	27	39	187	101	420	298	557	840	700	110	26	15
7	25	42	161	97	411	298	613	1,050	650	103	25	18
8	25	38	158	95	366	287	706	1,310	618	96	25	18
9	24	36	120	81	378	308	738	1,620	577	92	25	18
10	24	42	136	89	334	301	744	1,870	532	88	23	16
11	24	54	138	91	301	294	804	1,620	497	82	22	18
12	29	62	141	91	284	239	804	1,480	474	75	23	25
13	32	69	505	115	294	240	788	1,490	470	73	22	31
14	31	63	756	445	262	232	788	1,440	424	67	19	25
15	29	75	490	696	245	259	716	1,380	402	63	18	23
16	30	123	382	887	242	429	650	1,520	398	60	16	22
17	28	132	290	642	259	936	592	1,870	386	65	16	20
18	29	95	250	465	304	936	577	2,080	420	63	16	19
19	28	80	222	420	280	846	547	1,960	370	56	15	19
20	30	75	208	465	222	766	517	1,910	402	52	15	19
21	32	97	194	450	273	799	478	2,010	424	50	14	19
22	43	94	149	357	252	794	456	2,160	456	48	14	18
23	47	84	140	243	270	960	447	2,120	398	45	14	16
24	49	71	130	254	270	1,070	547	1,780	326	45	14	16
25	48	68	130	290	312	894	656	1,460	290	43	14	16
26	42	90	130	266	284	766	689	1,220	259	40	14	16
27	40	79	130	274	298	667	706	1,100	236	40	14	16
28	39	79	104	553	346	613	689	1,080	216	38	14	16
29	35	91	115	1,280	------	608	645	1,150	195	38	14	16
30	35	101	101	1,340	------	537	613	1,020	176	36	15	20
31	34	------	106	954	------	507	------	912	------	34	14	------
TOTAL	1,008	2,043	6,660	11,523	9,690	16,512	18,418	42,625	14,089	2,303	609	535
MEAN	32.5	68.1	215	372	346	533	614	1,375	470	74.3	19.6	17.8
MAX	49	132	756	1,340	716	1,070	804	2,160	822	160	32	31
MIN	23	32	101	81	222	232	424	572	176	34	14	12
AC-FT	2,000	4,050	13,210	22,860	19,220	32,750	36,530	84,550	27,950	4,570	1,210	1,060

CAL YR 1966: TOTAL 57,953 MEAN 159 MAX 1,420 MIN 10 AC-FT 114,900
WAT YR 1967: TOTAL 125,015 MEAN 345 MAX 2,160 MIN 12 AC-FT 249,900

Peak discharge (base, 2,100 cfs).--May 23 (0430 hrs) 2,300 cfs (5.33 ft).

Note.--No gage-height record Oct. 1 to Nov. 7.

13-3200. Catherine Creek near Union, Oreg.

Location (revised).--Lat 45°09'20", long 117°46'26", in NW¼SE¼ sec.2, T.5 S., R.40 E., on right bank 3.0 miles downstream from Little Catherine Creek, 5.5 miles southeast of Union, and at mile 25.4.

Drainage area.--105 sq mi.

Records available.--May 1906 to May 1907 (gage heights only), August 1911 to December 1912, March to September 1915, February 18 to September 1919, October 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Digital water-stage recorder. Datum of gage is 3,081.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (Oregon State Highway Department bench mark). Prior to Nov. 28, 1938, staff gage at several sites within 1.8 miles of present site at various datums. Nov. 28, 1938, to May 16, 1939, water-stage recorder at site 400 ft downstream at datum 4.29 ft lower. May 17, 1939, to July 14, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--44 years (1911-12, 1918-19, 1925-67), 118 cfs (85,430 acre-ft per year).

Extremes.--Maximum discharge during year, 995 cfs May 22 (gage height, 3.48 ft); minimum, 16 cfs Nov. 9.

1911-12, 1915, 1918-19, 1925-67: Maximum discharge, 1,740 cfs May 27, 1948 (gage height, 4.57 ft); minimum, 6.5 cfs Feb. 4, 1955, result of freezeup; minimum daily, 8 cfs Nov. 7, 1925.

Remarks.--Records excellent. No regulation. Several small diversions for irrigation of about 130 acres above station. Since 1937, diversion to Big Creek in Powder River basin provides a small part of the water used for irrigation of 3,300 acres in that basin.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	20	41	24	97	50	65	93	430	272	50	25
2	24	20	46	24	83	50	61	93	430	253	52	25
3	20	19	54	25	73	48	61	102	434	244	50	26
4	18	19	44	25	67	40	64	113	434	228	48	25
5	18	20	46	25	61	42	71	136	439	209	47	25
6	17	23	40	25	57	44	74	176	542	189	47	26
7	17	20	37	25	55	43	78	250	547	173	44	26
8	17	19	33	23	53	46	95	340	516	156	44	25
9	17	18	30	22	53	47	108	398	488	147	43	24
10	17	23	31	21	52	47	110	383	475	136	41	24
11	17	21	32	22	49	44	117	307	457	127	40	36
12	18	30	34	22	47	38	135	260	418	121	40	38
13	20	35	63	28	47	34	142	228	386	111	39	29
14	19	47	59	46	44	36	130	218	398	106	36	27
15	19	44	49	55	43	38	113	253	448	98	35	26
16	18	62	43	59	43	53	102	358	470	93	35	25
17	19	44	38	56	46	92	97	524	466	93	34	24
18	18	35	36	50	44	106	97	596	493	97	32	24
19	18	32	34	46	38	98	92	583	524	93	31	23
20	19	39	33	44	36	93	90	628	534	80	32	23
21	19	37	31	42	36	90	83	740	534	76	32	22
22	20	33	28	38	38	88	82	880	466	72	31	21
23	31	28	27	35	41	93	83	865	390	70	30	21
24	30	27	25	36	42	98	88	755	361	67	29	21
25	31	28	27	36	44	97	93	632	340	64	28	20
26	29	27	25	37	44	90	98	552	330	60	28	20
27	26	27	27	38	44	82	106	524	311	58	29	19
28	22	28	24	55	47	78	106	552	296	57	29	19
29	20	29	22	115	------	77	106	556	282	55	27	20
30	23	30	22	142	------	71	98	488	286	53	26	25
31	22	------	23	117	------	68	------	430	------	52	26	------
TOTAL	640	884	1,104	1,358	1,424	2,021	2,845	13,013	12,925	3,710	1,135	734
MEAN	20.6	29.5	35.6	43.8	50.9	65.2	94.8	420	431	120	36.6	24.5
MAX	31	62	63	142	97	106	142	880	547	272	52	38
MIN	17	18	22	21	36	34	61	93	282	52	26	19
AC-FT	1,270	1,750	2,190	2,690	2,820	4,010	5,640	25,810	25,640	7,360	2,250	1,460

CAL YR 1966: TOTAL 20,957 MEAN 57.4 MAX 352 MIN 16 AC-FT 41,570
WAT YR 1967: TOTAL 41,793 MEAN 115 MAX 880 MIN 17 AC-FT 82,900

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-22	2130	3.48	995				
6- 6	2230	2.65	588				
6-19	2130	2.73	624				

13-3235. Grande Ronde River near Elgin, Oreg.

Location.--Lat 45°30'45", long 117°55'35", in NW¼NW¼ sec.3, T.1 S., R.39 E., on right bank 700 ft upstream from abandoned highway bridge, 1.5 miles downstream from Willow Creek, 3.6 miles south of Elgin, and at mile 104.2.

Drainage area.--1,250 sq mi, approximately.

Records available.--August 1955 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,660.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 25, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--12 years, 649 cfs (469,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,950 cfs May 24 (gage height, 8.75 ft); minimum, 4.8 cfs Sept. 8.

1955-67: Maximum discharge, 6,480 cfs Feb. 2, 1965 (gage height, 13.79 ft); minimum, 3.4 cfs Sept. 9, 10, 1966.

Flood in May 1948 reached a stage of 2,672.9 ft on Corps of Engineers' gage at bridge 700 ft downstream (discharge, 5,690 cfs, discharge measurement).

Floods in 1894 and 1917 were much higher, based on Corps of Engineers' flood profiles.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation. Many diversions for irrigation in valley above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	53	148	214	860	380	600	812	1,740	466	29	7.2
2	16	50	184	194	770	380	550	772	1,620	406	28	7.2
3	19	53	229	204	730	400	480	772	1,520	361	27	8.0
4	22	55	246	220	660	360	400	804	1,440	335	21	10
5	19	59	248	192	630	340	550	876	1,380	310	20	10
6	19	56	248	187	580	340	600	964	1,330	253	20	10
7	20	58	227	180	560	360	700	1,110	1,310	208	22	7.2
8	18	57	218	172	530	360	750	1,360	1,280	179	22	5.3
9	18	61	194	166	490	340	800	1,630	1,270	161	22	5.6
10	18	70	145	159	460	360	850	1,900	1,250	148	19	6.3
11	19	73	179	167	460	340	850	2,360	1,210	132	20	7.2
12	19	88	183	176	425	320	1,100	2,090	1,170	109	19	9.2
13	20	105	373	170	420	280	1,080	2,060	1,120	91	16	9.2
14	22	114	748	250	390	280	1,080	2,020	1,050	72	16	8.4
15	25	115	800	560	370	280	1,060	1,960	976	53	16	8.8
16	25	135	656	810	360	300	980	1,910	932	40	15	8.0
17	25	171	535	1,000	400	500	896	2,020	892	39	13	7.2
18	27	171	448	890	380	1,000	844	2,240	904	37	11	5.9
19	26	159	388	740	370	1,050	816	2,430	924	34	10	5.3
20	31	142	350	630	360	950	776	2,520	924	33	9.2	5.3
21	34	135	330	730	340	900	730	2,600	968	33	9.6	6.6
22	38	145	295	660	330	900	688	2,730	1,070	32	10	8.0
23	45	137	202	500	320	900	650	2,880	1,060	35	10	8.0
24	45	126	210	395	340	1,100	656	2,930	992	35	8.4	7.2
25	44	114	246	335	340	1,200	744	2,780	896	34	7.2	8.0
26	54	116	257	315	360	1,000	828	2,540	816	35	6.6	11
27	58	126	220	470	340	890	864	2,300	734	35	7.2	14
28	57	118	226	770	360	780	900	2,110	667	29	7.6	13
29	57	129	208	1,650	------	700	868	2,030	595	30	6.9	11
30	56	132	206	1,570	------	700	840	1,970	532	31	6.6	10
31	56	------	206	1,060	------	650	------	1,860	------	32	6.9	------
TOTAL	968	3,123	9,353	15,736	12,935	18,640	23,530	59,340	32,572	3,828	462.2	248.1
MEAN	31.2	104	302	508	462	601	784	1,914	1,086	123	14.9	8.27
MAX	58	171	800	1,650	860	1,200	1,100	2,930	1,740	466	29	14
MIN	16	50	145	159	320	280	400	772	532	29	6.6	5.3
Ac-ft	1,920	6,190	18,550	31,210	25,660	36,970	46,670	117,700	64,600	7,590	917	492

CAL YR 1966: TOTAL 86,867.4 MEAN 238 MAX 1,720 MIN 3.6 Ac-ft 172,300
WAT YR 1967: TOTAL 130,735.3 MEAN 495 MAX 2,930 MIN 5.3 Ac-ft 358,480

Note.--No gage-height record Jan. 6 to Apr. 11.

13-3250. East Fork Wallowa River near Joseph, Oreg.

Location.--Lat 45°16'20", long 117°12'35", in NE¼ sec.29, T.3 S., R.45 E., on left bank 0.2 mile upstream from confluence with West Fork, 1 mile upstream from Wallowa Lake, 5.5 miles south of Joseph, and at mile 55.0.

Drainage area.--10.3 sq mi.

Records available.--July 1924 to September 1967. Prior to October 1952, records published separately as East Fork Wallowa River near Joseph and Wallowa Falls powerplant tailrace near Joseph.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,517.69 ft above mean sea level, datum of 1929 (Pacific Power & Light Co. bench mark). Prior to Apr. 8, 1950, staff gage at same site and datum.

Average discharge.--43 years, 21.4 cfs (15,490 acre-ft per year).

Extremes.--Maximum discharge during year, 134 cfs June 21; minimum daily, 7.0 cfs Dec. 9, Mar. 13, 14.

1924-67: Maximum discharge, 450 cfs July 25, 1937 (no flow in powerplant tailrace), from rating curve extended above 80 cfs by logarithmic plotting; minimum daily, 6.6 cfs Feb. 13, 1927.

Remarks.--Records good. All records presented herein include flow in Wallowa Falls powerplant tailrace of Pacific Power & Light Co. Most of low flow is diverted at dam 1.5 miles upstream into a conduit 1.0 mile above Wallowa Falls powerhouse and discharged into West Fork 0.4 mile below powerhouse.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	10	14	11	9.7	10	8.0	8.6	8.9	35	123	37	19
2	14	13	10	9.0	10	8.0	8.6	8.9	37	118	35	18
3	12	13	11	9.7	10	8.0	8.6	8.6	39	117	34	18
4	12	13	9.3	10	10	7.1	8.6	8.6	41	114	34	18
5	12	12	8.4	9.7	9.7	7.1	8.6	9.3	42	102	33	18
6	11	13	11	8.6	9.7	7.7	8.6	10	71	94	31	18
7	11	12	11	9.0	9.3	8.3	9.7	13	63	90	32	18
8	11	12	10	9.0	9.3	8.6	8.6	14	64	88	31	18
9	10	12	7.0	9.0	9.3	8.3	8.3	16	64	85	30	18
10	10	12	8.8	9.0	8.9	8.3	8.6	16	65	80	29	18
11	11	12	11	9.5	8.6	8.3	8.6	15	64	77	27	20
12	12	12	11	9.5	8.6	7.4	8.6	14	60	77	28	19
13	12	15	12	10	8.6	7.0	8.6	13	57	77	27	19
14	12	15	12	10	8.3	7.0	8.3	13	64	75	27	19
15	11	16	11	9.7	8.3	7.4	8.3	14	66	69	27	17
16	11	16	11	10	8.6	8.6	8.3	17	71	65	27	18
17	11	14	11	9.5	8.6	8.9	8.3	21	78	68	26	17
18	11	12	11	9.3	8.3	8.0	8.6	25	88	64	25	17
19	11	13	9.5	9.7	8.0	7.7	8.6	28	97	59	25	17
20	11	15	10	10	7.4	7.7	8.6	29	100	57	25	16
21	11	13	8.9	10	8.0	7.7	8.6	36	111	54	25	17
22	12	12	8.6	9.7	8.3	7.7	8.6	43	110	50	24	16
23	12	11	8.5	8.0	8.0	7.7	8.6	47	101	47	24	16
24	12	10	8.5	8.0	8.0	7.7	8.6	46	95	46	23	16
25	13	11	8.0	8.6	8.0	7.7	8.6	43	94	44	23	16
26	13	10	8.5	9.7	8.0	7.7	8.6	39	102	44	22	16
27	15	10	7.5	10	8.0	7.7	8.6	40	122	43	22	16
28	15	10	9.0	9.3	8.0	8.0	8.6	41	117	41	22	16
29	14	10	10	13	- - - - -	8.0	8.6	39	119	40	22	16
30	15	11	8.5	11	- - - - -	8.0	8.6	36	122	38	19	17
31	14	- - - - -	10	11	- - - - -	8.0	- - - - -	35	- - - - -	38	19	- - - - -
Total	372	374	303.0	298.2	243.8	243.3	257.6	747.3	2,359	2,184	835	522
Mean	12.0	12.5	9.77	9.62	8.71	7.85	8.59	24.1	78.6	70.5	26.9	17.4
Max	15	16	12	13	10	8.9	9.7	47	122	123	37	20
Min	10	10	7.0	8.0	7.4	7.0	8.3	8.6	35	38	19	16
Cfsm	1.17	1.21	.949	.934	.846	.762	.834	2.34	7.63	6.84	2.61	1.69
In.	1.34	1.35	1.09	1.08	.880	.878	.930	2.70	8.52	7.89	3.01	1.88
Ac-ft	738	742	601	591	484	483	511	1,480	4,680	4,330	1,660	1,040

Cal yr 1966:	Total	6,511	Mean	17.8	Max	56	Min	7.0	Cfsm	1.73	In.	23.50	Ac-ft	12,910
Wtr yr 1967:	Total	8,739.2	Mean	23.9	Max	123	Min	7.0	Cfsm	2.32	In.	31.55	Ac-ft	17,330

13-3260. Wallowa Lake near Joseph, Oreg.

Location.--Lat 45°20'10", long 117°13'15", in NW¼ sec.5, T.3 S., R.45 E., at spillway near right end of Wallowa Lake dam on Wallowa River, 1.3 miles (revised) southeast of Joseph, and at mile 50.2.

Drainage area.--50.8 sq mi.

Records available.--November 1903 to July 1906 (gage heights only), January 1912 to March 1914, May to September 1915 (gage heights and change in contents only), October 1925 to June 1926, December 1926 to September 1967. Month-end contents only for some periods, published in WSP 1317. November 1903 to March 1905 published as Wallowa River at Joseph. Change in contents for January 1912 to March 1914 and May to September 1915 published with records for Wallowa River at Joseph.

Gage.--Water-stage recorder. Datum of gage is 4,355.66 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1925, staff gage at several sites within half a mile of present site at different datums. Oct. 1, 1925, to June 30, 1926, Dec. 1, 1926, to May 18, 1961, staff gage near left end of dam at same datum.

Extremes.--Maximum contents during year, 43,630 acre-ft July 19 (gage height, 27.33 ft); minimum, 7,460 acre-ft Oct. 1 (gage height, 4.82 ft).

1925-67: Maximum contents observed, 47,830 acre-ft June 5-7, 1957 (gage height, 29.85 ft); minimum observed, 4,790 acre-ft Oct. 10, 1929 (gage height, 3.10 ft).

Remarks.--Records excellent. Reservoir is formed by concrete dam. Capacity, 42,750 acre-ft between gage heights 0.0 (sill of outlet gates) and 26.8 ft (spillway crest). About 5,300 acre-ft dead storage above outlet gates, because channel is about 3.4 ft above outlet gates. Dead storage below outlet gates not known. Records are based on capacities above outlet gates.

Month-end gage height and contents, water year October 1966 to September 1967

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4.82	7,460	-
Oct. 31	5.30	8,200	+740
Nov. 30	6.80	10,540	+2,340
Dec. 31	8.22	12,750	+2,210
Calendar year 1966	-	-	-23,690
Jan. 31	9.20	14,290	+1,540
Feb. 28	10.07	15,660	+1,370
Mar. 31	11.33	17,640	+1,980
Apr. 30	12.57	19,600	+1,960
May 31	17.42	27,360	+7,760
June 30	27.05	43,160	+15,800
July 31	24.18	38,410	-4,750
Aug. 31	14.34	22,420	-15,990
Sept. 30	12.66	19,750	-2,670
Water year 1966-67	-	-	+12,290

† Gage height at 2400 hrs.

13-3275. Wallowa River at Joseph, Oreg.

Location (revised).--Lat 45°20'15", long 117°13'35", in NW¼ sec.5, T.3 S., R.45 E., on left bank 0.2 mile downstream from Wallowa Lake dam, 1.1 miles south of Joseph, and at mile 50.0.

Drainage area.--50.9 sq mi.

Records available.--November 1903 to August 1907, June 1908 to March 1914, May to September 1915, December 1926 to September 1967. Monthly discharge only for some periods, published in WSP 1317. Published as "near Joseph" 1911.

Gage.--Digital water-stage recorder. Datum of gage is 4,326.86 ft above mean sea level, datum of 1929. Nov. 12, 1903, to Sept. 25, 1915, staff gage at several sites at lake outlet or near present site at different datums. December 1926 to July 15, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--40 years (1927-67), 130 cfs (94,120 acre-ft per year), adjusted for storage and diversion.

Extremes.--Maximum discharge during year, 660 cfs July 1 (gage height, 4.00 ft); minimum 0.12 cfs May 22.

1903-15, 1926-67: Maximum discharge, 1,200 cfs June 5, 1957 (gage height, 4.75 ft); no flow at times in some years.

Remarks.--Records good. Monthly discharge adjusted for storage in Wallowa Lake (see sta. no. 3260) and diversion from Wallowa Lake by Silver Lake ditch. Silver Lake ditch diverts at Wallowa Lake dam for irrigation of 4,900 acres northeast of Joseph. City of Joseph diverts less than 1.0 cfs from Wallowa Lake for municipal use.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	29	11	21	20	11	9.7	11	414	652	429	190
2	27	29	12	21	23	10	17	12	417	640	423	177
3	27	29	14	21	23	9.6	12	13	411	640	417	158
4	27	29	14	20	23	9.9	13	13	405	640	396	153
5	28	29	14	18	20	9.7	12	13	405	599	354	149
6	28	24	15	15	22	9.4	11	13	411	564	328	147
7	33	22	13	15	22	9.2	11	13	405	508	339	138
8	33	22	12	22	21	8.7	10	13	360	508	345	126
9	25	22	18	25	20	8.2	10	13	348	462	336	121
10	25	22	24	25	20	8.2	10	13	325	441	325	114
11	25	24	25	25	20	8.2	9.8	13	318	447	320	106
12	25	25	27	25	16	15	8.8	12	290	453	318	94
13	26	25	27	25	14	19	8.4	12	249	453	315	75
14	26	25	25	24	14	19	9.9	12	233	450	313	60
15	26	25	25	21	14	18	10	12	210	423	323	56
16	22	26	25	20	14	15	10	12	179	393	375	55
17	20	23	21	20	14	12	12	12	157	339	405	55
18	20	22	21	20	14	10	12	16	141	325	393	55
19	20	22	21	19	15	9.2	12	17	138	336	396	64
20	20	21	21	17	17	9.3	12	23	155	357	384	66
21	26	18	21	16	14	11	11	32	153	357	360	66
22	31	16	21	16	14	11	11	27	125	384	333	66
23	30	16	21	16	13	11	11	134	116	399	313	66
24	30	15	21	21	13	11	11	203	106	435	275	66
25	30	14	21	22	12	10	11	219	109	438	249	81
26	31	14	21	22	10	10	11	256	233	432	226	99
27	31	15	21	22	11	8.7	11	300	366	408	201	103
28	31	16	21	22	11	8.2	11	315	426	420	212	103
29	31	15	20	17	- - - - -	8.0	11	390	487	426	201	103
30	31	13	20	15	- - - - -	8.2	10	411	543	414	184	88
31	30	- - - - -	20	14	- - - - -	7.8	- - - - -	408	- - - - -	432	179	- - - - -
Total	842	647	613	622	464	333.5	329.6	2,963	8,635	14,175	9,967	3,000
Mean	27.2	21.6	19.8	20.1	16.6	10.8	11.0	95.6	288	457	322	100
Max	33	29	27	25	23	19	17	411	543	652	429	190
Min	20	13	11	14	10	7.8	8.4	11	106	325	179	55
Ac-ft	1,670	1,280	1,220	1,230	920	661	654	5,880	17,130	28,120	19,770	5,950

Adjusted for change in contents of Wallowa Lake and diversion by Silver Lake ditch

Mean	44.1	64.5	60.3	49.8	45.7	46.7	47.4	226	591	444	133	73.6
Cfsm	0.866	1.27	1.18	0.978	0.898	0.917	0.931	4.44	11.61	8.72	2.61	1.45
In.	1.00	1.41	1.37	1.13	0.94	1.06	1.04	5.13	12.96	10.05	3.02	1.61
Ac-ft	2,710	3,840	3,710	3,060	2,540	2,870	2,820	13,920	35,170	27,270	8,200	4,380

Observed									Adjusted							
Cal yr 1966:	Total	43,883	Mean	120	Max	499	Min	11	Ac-ft	87,040	Mean	111	Cfsm	2.18	In.	29.53	Ac-ft	80,150
Wtr yr 1967:	Total	42,591.1	Mean	117	Max	652	Min	7.8	Ac-ft	84,480	Mean	153	Cfsm	3.01	In.	40.70	Ac-ft	110,480

13-3295. Hurricane Creek near Joseph, Oreg.

Location.--Lat 45°20'15", long 117°17'30", in NE¼ sec.3, T.3 S., R.44 E., on left bank 350 ft upstream from intake of Moonshine ditch, 3.5 miles southwest of Joseph, and at mile 7.5.

Drainage area.--29.6 sq mi.

Records available.--April to September 1915, April 1924 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Digital water-stage recorder. Altitude of gage is 4,500 ft (by barometer). Apr. 27 to Sept. 3, 1915, staff gage at site 250 ft downstream at different datum. Apr. 23, 1924, to June 13, 1933, water-stage recorder at site 150 ft downstream from present site at different datum. June 14, 1933, to Nov. 16, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--43 years (1924-67), 73.4 cfs (53,140 acre-ft per year).

Extremes.--Maximum discharge during year, 595 cfs June 20 (gage height, 4.37 ft); minimum, 12 cfs Mar. 4, 12.

1915, 1924-67: Maximum discharge, 1,110 cfs June 9, 1948 (gage height, 3.55 ft); maximum gage height, 4.69 ft June 13, 1955 (backwater from debris); minimum discharge, 2.8 cfs Mar. 2, 1955, result of ice jam upstream; minimum daily, 6.0 cfs Jan. 6, Apr. 13, 1945.

Remarks.--Records fair. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	23	26	24	20	16	16	17	187	377	108	41
2	30	22	25	22	21	15	15	18	199	381	98	41
3	25	22	25	22	20	15	15	18	213	369	95	39
4	22	21	24	22	20	14	16	19	224	369	93	39
5	22	21	21	21	20	15	16	19	232	349	91	41
6	21	21	23	20	20	15	16	22	430	325	89	52
7	21	20	24	20	20	16	16	31	386	305	85	44
8	20	20	22	21	19	15	16	43	355	291	83	42
9	20	20	20	21	20	15	17	58	345	277	79	41
10	20	20	21	21	20	15	17	60	320	260	77	39
11	20	20	24	21	20	15	18	52	314	263	77	45
12	20	21	25	20	20	14	18	47	282	280	75	42
13	20	26	32	20	20	15	18	43	252	274	73	41
14	20	30	29	20	19	15	18	42	273	252	69	38
15	20	32	27	21	19	15	17	50	344	232	69	36
16	20	38	27	20	19	17	17	73	377	214	67	36
17	20	31	27	20	19	18	18	133	406	246	65	35
18	19	29	26	19	19	16	18	161	451	217	63	35
19	19	27	26	20	19	16	18	167	501	199	59	34
20	19	35	26	21	16	16	18	190	509	184	59	34
21	19	32	24	20	18	16	17	264	510	175	57	34
22	20	29	20	20	18	16	17	368	421	163	53	34
23	22	27	20	17	18	17	17	361	357	160	50	34
24	23	25	22	17	17	16	18	318	345	154	49	33
25	23	27	25	18	17	15	18	260	353	142	47	33
26	24	25	25	20	16	16	18	239	377	135	47	32
27	24	25	22	20	16	16	18	238	381	128	47	32
28	23	25	21	24	15	16	18	251	381	120	45	30
29	22	24	24	25	------	16	18	248	397	118	45	32
30	24	25	25	22	------	15	18	225	417	115	43	34
31	24	------	24	21	------	15	------	193	------	112	42	------
TOTAL	666	763	752	640	525	482	515	4,228	10,539	7,186	2,099	1,123
MEAN	21.5	25.4	24.3	20.6	18.8	15.5	17.2	136	351	232	67.7	37.4
MAX	30	38	32	25	21	18	18	368	510	381	108	52
MIN	19	20	20	17	15	14	15	17	187	112	42	30
CFSM	.73	.86	.82	.70	.63	.53	.58	4.61	11.9	7.83	2.29	1.26
IN.	.84	.96	.94	.80	.66	.61	.65	5.31	13.2	9.03	2.64	1.41
AC-FT	1,320	1,510	1,490	1,270	1,040	956	1,020	8,390	20,900	14,250	4,160	2,230

CAL YR 1966: TOTAL 19,980 MEAN 54.7 MAX 293 MIN 13 CFSM 1.85 IN 25.10 AC-FT 39,630
WAT YR 1967: TOTAL 29,518 MEAN 80.9 MAX 510 MIN 14 CFSM 2.73 IN 37.09 AC-FT 58,550

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-22	2030	4.15	455				
6- 6	1400	4.26	516				
6-20	1800	4.37	595				

13-3300. Lostine River near Lostine, Oreg.

Location.--Lat 45°26'20", long 117°25'35", in NW¼ sec.34, T.1 S., R.43 E., on left bank 3.5 miles south of Lostine and at mile 10.0.

Drainage area.--70.9 sq mi.

Records available.--August 1912 to March 1914, April to September 1915, July 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Digital water-stage recorder. Altitude of gage is 3,650 ft (by barometer). Aug. 27, 1912, to Sept. 25, 1915, staff gage at site 500 ft upstream at different datum. July 21, 1925, to Sept. 30, 1929, graphic water-stage recorder at site 100 ft upstream at datum about 1.5 ft higher. Oct. 1, 1929, to Dec. 15, 1953, graphic water-stage recorder at site 85 ft downstream at datum 1.00 ft higher. Dec. 16, 1953 to Mar. 23, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--43 years (1912-13, 1925-67), 194 cfs (140,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,820 cfs June 20 (gage height, 6.20 ft); minimum, 16 cfs Mar. 4, result of freezeup; minimum daily, 22 cfs Oct. 1.

1912-15, 1925-67: Maximum discharge observed, 2,540 cfs May 27, 1913 (gage height, 6.60 ft, site and datum then in use); minimum, 7.5 cfs Mar. 2, 1966, result of freezeup; minimum daily, 10 cfs Nov. 28-30, 1936.

Remarks.--Records excellent. No regulation. Diversions for irrigation of about 130 acres of which about 20 acres is below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	40	58	46	60	38	44	49	505	1,140	156	45
2	51	38	56	45	57	38	43	49	551	1,100	144	44
3	39	36	56	45	55	36	42	48	601	1,170	137	43
4	33	34	55	46	54	34	43	48	624	1,060	131	42
5	31	34	54	43	52	36	43	51	667	960	127	42
6	28	35	54	42	50	37	42	52	1,230	869	121	52
7	27	32	52	44	48	34	43	56	1,170	790	113	45
8	27	31	48	42	48	35	45	73	1,030	743	105	42
9	26	30	44	41	48	36	46	152	979	689	98	42
10	25	33	48	40	47	37	48	265	931	637	93	41
11	25	31	51	40	46	36	52	247	893	631	91	49
12	28	40	57	40	45	30	53	204	787	675	89	52
13	29	45	106	43	45	34	55	181	663	665	85	46
14	28	68	90	47	43	36	56	162	730	581	82	43
15	28	65	73	54	42	37	56	159	953	511	78	40
16	26	90	66	51	42	43	54	207	1,140	459	74	38
17	27	70	61	48	45	55	52	322	1,300	518	71	36
18	25	60	59	44	44	49	51	546	1,430	469	68	35
19	26	56	58	48	38	46	50	564	1,610	404	66	34
20	27	72	57	47	36	46	49	654	1,630	353	65	33
21	27	70	54	46	38	45	46	856	1,600	321	64	33
22	31	63	48	42	39	45	47	1,130	1,350	292	61	32
23	37	57	36	34	40	48	47	1,180	1,070	272	58	31
24	41	52	40	30	38	48	49	1,000	987	262	56	30
25	40	50	40	34	38	46	50	814	984	249	54	30
26	42	46	40	42	36	46	52	685	1,100	230	52	29
27	42	44	41	51	36	45	51	665	1,180	208	51	28
28	37	46	48	66	37	45	51	716	1,160	191	51	27
29	34	49	48	75	------	45	50	720	1,190	178	49	29
30	41	52	47	70	------	43	50	615	1,250	173	47	36
31	46	------	47	64	------	43	------	519	------	167	46	------
TOTAL	996	1,469	1,692	1,450	1,247	1,272	1,460	12,989	31,295	16,967	2,583	1,149
MEAN	32.1	49.0	54.6	46.8	44.5	41.0	48.7	419	1,043	547	83.3	38.3
MAX	51	90	106	75	60	55	56	1,180	1,630	1,170	156	52
MIN	22	30	36	30	36	30	42	48	505	167	46	27
AC-FT	1,980	2,910	3,360	2,880	2,470	2,520	2,900	25,760	62,070	33,650	5,120	2,280

CAL YR 1966: TOTAL 46,267 MEAN 127 MAX 886 MIN 18 AC-FT 91,770
WAT YR 1967: TOTAL 74,569 MEAN 204 MAX 1,630 MIN 22 AC-FT 147,900

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-22	2300	5.30	1,370				
6- 6	1500	5.44	1,440				
6-20	2300	6.20	1,820				
6-29	2330	5.47	1,460				

13-3305. Bear Creek near Wallowa, Oreg.

Location.--Lat 45°31'37", long 117°33'05", in NW¼NE¼ sec.34, T.1 N., R.42 E., on right bank 30 ft downstream from road bridge, 3 miles southwest of Wallowa, and at mile 4.4.

Drainage area.--68 sq mi, approximately.

Records available.--April to September 1915, April 1924 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Water-stage recorder. Altitude of gage is 3,250 ft (by barometer). Apr. 13 to Sept. 16, 1915, staff gage at site 1 mile upstream at different datum. Apr. 22, 1924, to Nov. 2, 1931, water-stage recorder at site 1.5 miles upstream at different datum.

Average discharge.--43 years (1924-67), 112 cfs (81,080 acre-ft per year).

Extremes.--Maximum discharge during year, 1,190 cfs May 21 (gage height, 3.24 ft); minimum daily, 7.2 cfs Sept. 26.

1915, 1924-67: Maximum discharge, 1,620 cfs Apr. 22, 1936 (gage height, 3.82 ft, from floodmark), from rating curve extended above 930 cfs; minimum daily, 3 cfs Jan. 20, Feb. 1, 1937.

Remarks.--Records good. No regulation. Diversions for irrigation of about 43 acres above station. Water for irrigation of about 440 acres in Lostine River basin diverted from Little Bear Creek, a tributary above station, in sec.32, T.1 S., R.43 E.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	18	43	30	100	27	41	52	336	432	27	10
2	16	17	49	28	89	27	38	50	361	403	26	10
3	12	17	50	28	81	28	38	50	396	410	25	11
4	10	16	46	28	71	24	38	53	396	354	23	11
5	9.6	16	46	26	64	26	41	58	417	318	23	11
6	9.6	17	42	26	58	26	41	79	598	254	22	11
7	9.2	16	40	27	53	26	43	137	580	231	21	11
8	9.2	15	35	27	49	26	46	260	548	206	20	11
9	8.9	15	32	26	48	26	50	378	540	206	19	10
10	8.9	16	32	26	43	26	53	399	524	164	18	10
11	8.6	14	32	26	40	26	61	314	492	152	18	14
12	9.6	18	35	25	36	22	63	250	447	149	18	14
13	10	18	98	28	36	24	64	195	382	137	16	14
14	9.6	32	113	36	34	22	68	170	417	120	16	11
15	9.6	39	98	50	31	23	63	186	540	110	15	10
16	9.2	59	87	64	31	26	61	290	598	100	15	10
17	9.6	50	75	64	32	41	59	484	634	100	14	9.8
18	9.6	43	68	56	31	56	58	572	652	90	14	9.8
19	9.2	39	63	55	28	61	56	548	652	80	13	9.8
20	10	45	61	53	26	61	55	564	638	70	13	11
21	11	46	50	49	29	58	52	710	661	65	13	8.9
22	13	42	46	46	29	55	53	988	580	60	13	8.7
23	14	38	44	40	26	58	53	781	508	50	13	8.3
24	13	33	42	36	26	58	55	670	462	45	12	8.3
25	13	32	42	38	26	56	56	548	462	43	12	8.3
26	14	30	39	41	26	53	58	470	492	40	12	8.3
27	16	31	35	45	26	50	58	447	485	38	11	8.3
28	16	31	34	63	26	48	58	462	462	35	11	8.3
29	16	31	34	96		46	56	485	470	34	11	8.7
30	16	32	32	118	- - - - -	42	55	410	477	31	10	11
31	18	- - - - -	30	113	- - - - -	41	- - - - -	330	- - - - -	29	10	- - - - -
Total	358.0	866	1,573	1,414	1,195	1,189	1,591	11,390	15,207	4,556	504	306.5
Mean	11.5	28.9	50.7	45.6	42.7	38.4	53.0	367	507	147	16.3	10.2
Max	18	59	113	118	100	61	68	988	661	432	27	14
Min	8.6	14	30	25	26	22	38	50	336	29	10	8.3
Ac-ft	710	1,720	3,120	2,800	2,370	2,360	3,160	22,590	30,160	9,040	1,000	608

Cal yr 1966: Total 24,185.2 Mean 66.3 Max 484 Min 6.9 Ac-ft 47,970
Wtr yr 1967: Total 40,149.5 Mean 110 Max 988 Min 8.3 Ac-ft 79,640

Peak discharge (base, 600 cfs).--May 21 (2030 hrs) 1,190 cfs (3.24 ft); June 18 (2100 hrs) 760 cfs (2.99 ft).

13-3315. Minam River at Minam, Oreg.
(hydrologic bench-mark station)

Location (revised).--Lat 45°37'12", long 117°43'32", in SW¼SW¼ sec.29, T.2 N., R.41 E., on left bank 2.3 miles downstream from Squaw Creek, 0.3 mile west of Minam, and at mile 0.3.

Drainage area.--240 sq mi approximately.

Records available.--June 1912 to March 1914, September 1965 to September 1967. Monthly discharge only for some periods, published in WSP 1317.

Gage.--Digital water-stage recorder. Datum of gage is 2,540.48 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 1912 to March 1914, staff gage at approximately same site at different datum.

Extremes.--Maximum discharge during the year, 4,280 cfs May 22 (gage height, 5.59 ft); minimum, 44 cfs Oct. 1.

1912-14, 1965-67: Maximum discharge, 4,500 cfs May 28, 1913 (gage height, 7.3 ft, datum then in use); minimum, 17 cfs Dec. 15, 1965.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures and chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	45	77	177	136	364	152	191	226	1,350	1,630	210	71
2	80	70	215	124	324	159	182	218	1,400	1,510	200	67
3	96	67	212	128	289	148	182	229	1,450	1,550	190	67
4	65	64	188	132	268	134	188	240	1,510	1,430	180	67
5	58	65	185	132	250	143	203	264	1,540	1,280	173	65
6	54	84	175	126	226	152	203	328	2,060	1,140	165	67
7	51	72	175	130	222	147	203	440	2,200	1,030	160	74
8	51	65	159	132	203	148	219	636	2,080	940	156	67
9	51	58	136	126	212	148	236	872	1,990	879	150	64
10	49	74	150	122	194	152	247	908	1,930	802	141	64
11	49	74	148	120	185	152	268	732	1,890	746	137	81
12	55	92	152	122	177	126	271	636	1,710	746	135	115
13	62	97	480	150	175	110	282	582	1,490	746	129	87
14	59	164	612	250	167	130	282	570	1,540	666	125	77
15	55	164	404	328	159	136	257	612	1,890	600	121	71
16	55	229	324	392	159	143	247	837	2,190	537	115	67
17	54	203	271	328	167	268	236	1,290	2,450	576	111	64
18	54	152	236	268	169	317	240	1,640	2,620	532	107	62
19	51	134	219	254	141	299	236	1,530	3,020	475	103	61
20	54	152	209	240	132	275	236	1,710	2,810	425	101	59
21	64	185	200	222	164	254	226	2,160	2,960	392	101	58
22	70	157	159	209	145	247	222	3,140	2,510	370	97	56
23	84	136	140	150	154	254	233	3,240	1,970	349	93	56
24	97	126	110	120	143	271	246	2,570	1,750	331	89	54
25	92	130	110	120	150	254	254	2,070	1,660	317	85	54
26	92	136	120	160	143	240	254	1,670	1,790	300	83	53
27	92	120	120	203	141	222	257	1,650	1,840	282	83	52
28	84	126	118	340	145	215	254	1,810	1,730	261	83	50
29	74	128	150	558	------	212	246	1,890	1,710	247	79	49
30	72	128	136	552	------	197	236	1,580	1,770	231	76	62
31	85	------	134	436	------	194	------	1,350	------	219	72	------
TOTAL	2,054	3,529	6,324	6,810	5,368	5,999	7,037	37,630	58,810	21,539	3,850	1,961
MEAN	66.3	118	204	220	192	194	235	1,214	1,960	695	124	65.4
MAX	97	229	612	558	364	317	282	3,240	3,020	1,630	210	115
MIN	45	58	110	120	132	110	182	218	1,350	219	72	49
CFSM	.28	.49	.85	.92	.80	.81	.98	5.06	8.17	2.90	.52	.27
IN.	.32	.55	.98	1.06	.83	.93	1.09	5.83	9.11	3.34	.60	.30
AC-FT	4,070	7,000	12,540	13,510	10,650	11,900	13,960	74,640	116,600	42,720	7,640	3,890

CAL YR 1966: TOTAL 101,030 MEAN 277 MAX 1,630 MIN 45 CFSM 1.15 IN 15.66 AC-FT 200,400
WAT YR 1967: TOTAL 160,911 MEAN 441 MAX 3,240 MIN 45 CFSM 1.84 IN 24.93 AC-FT 319,200

Peak discharge (base, 1,450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-22	2330	5.59	4,280				
6- 6	1630	4.55	2,380				
6-19	2330	5.21	3,520				

13-3325. Grande Ronde River at Rondowa, Oreg.

Location.--Lat 45°43'36", long 117°46'59", in SW¼NW¼ sec.23, T.3 N., R.40 E., on right bank at Rondowa, 500 ft downstream from Wallowa River, 13 miles northeast of Elgin, and at mile 81.4.

Drainage area.--2,555 sq mi.

Records available.--October 1926 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,281.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 30, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--41 years, 2,089 cfs (1,512,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,400 cfs May 23 (gage height, 6.46 ft); minimum, 390 cfs Oct. 1, but may have been less during period of no gage-height record.

1926-67: Maximum discharge, 24,700 cfs Jan. 30, 1965 (gage height, 10.93 ft); minimum, 225 cfs Dec. 19, 1935.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Flow slightly regulated by Wallowa Lake (see sta. no. 3260) and small reservoirs. Diversions for irrigation of about 95,000 acres above station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Sheep Creek in Imnaha River basin for irrigation of about 6,500 acres in Wallowa Valley.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	396	508	822	832	2,950	1,300	1,810	1,840	5,020	4,800	688	450
2	455	492	986	794	2,540	1,340	1,760	1,780	4,950	4,480	618	445
3	500	485	1,180	794	2,220	1,300	1,700	1,820	4,970	4,670	588	440
4	448	478	1,080	842	2,020	1,230	1,740	1,900	4,980	4,360	562	430
5	442	492	1,090	880	1,920	1,180	1,820	2,070	4,980	4,010	540	430
6	429	530	1,010	813	1,770	1,180	1,880	2,350	5,980	3,600	539	430
7	416	508	956	775	1,650	1,180	1,940	2,840	6,430	3,290	540	420
8	415	485	898	775	1,570	1,150	2,040	3,610	6,100	2,990	534	420
9	410	478	804	750	1,520	1,160	2,160	4,410	5,990	2,780	541	414
10	406	500	784	724	1,460	1,220	2,260	4,820	5,770	2,560	533	400
11	409	508	775	732	1,390	1,230	2,380	4,570	5,610	2,360	530	430
12	436	575	851	766	1,330	1,110	2,490	4,320	5,400	2,330	538	520
13	450	614	2,440	1,010	1,290	1,120	2,470	4,100	4,950	2,340	530	500
14	451	724	2,860	1,700	1,250	1,090	2,450	3,980	4,840	2,100	508	475
15	440	766	2,300	2,400	1,210	1,070	2,340	3,990	5,360	1,910	500	475
16	444	918	1,860	2,590	1,150	1,180	2,200	4,420	5,950	1,660	508	472
17	436	918	1,570	2,350	1,220	1,920	2,050	5,440	6,330	1,710	470	470
18	429	804	1,380	1,980	1,470	2,490	2,020	6,600	6,700	1,640	462	458
19	426	741	1,250	1,750	1,390	2,560	2,010	6,620	7,220	1,440	455	440
20	431	741	1,180	1,770	1,250	2,460	1,980	6,990	7,320	1,280	455	420
21	455	784	1,110	1,740	1,230	2,380	1,880	7,840	7,600	1,170	470	418
22	522	741	996	1,630	1,200	2,330	1,780	9,170	7,160	1,020	462	410
23	545	707	870	1,380	1,220	2,400	1,740	9,670	5,980	959	455	410
24	552	664	870	1,140	1,210	2,600	1,750	8,930	5,460	912	462	415
25	530	664	889	1,100	1,230	2,650	1,860	7,840	5,130	819	448	415
26	522	707	870	1,200	1,230	2,470	1,970	6,820	5,280	806	478	410
27	545	656	830	1,740	1,200	2,260	2,010	6,310	5,360	773	485	405
28	530	664	794	2,910	1,240	2,120	2,040	6,290	5,160	762	492	400
29	508	690	822	3,830	------	2,100	1,980	6,420	5,010	746	485	395
30	500	698	794	4,010	------	1,980	1,910	5,890	5,090	737	478	403
31	522	------	775	3,560	------	1,870	------	5,290	------	721	478	------
TOTAL	14,400	19,240	35,696	49,267	42,330	53,630	60,420	158,940	172,080	65,735	15,832	13,020
MEAN	465	641	1,151	1,589	1,512	1,730	2,014	5,127	5,736	2,120	511	434
MAX	552	918	2,860	4,010	2,950	2,650	2,490	9,670	7,600	4,800	688	520
MIN	396	478	775	724	1,150	1,070	1,700	1,780	4,840	721	448	395
AC-FT	28,560	38,160	70,800	97,720	83,960	106,400	119,800	315,300	341,300	130,400	31,400	25,820

CAL YR 1966: TOTAL 425,760 MEAN 1,166 MAX 4,920 MIN 280 AC-FT 844,500
WAT YR 1967: TOTAL 700,590 MEAN 1,919 MAX 9,670 MIN 395 AC-FT 1,390,000

Peak discharge (base, 6,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-23	0400	6.46	10,400				
6- 6	2330	5.07	6,830				
6-21	2330	5.48	7,810				

Note.--No gage-height record Sept. 1-30.

13-3330. Grande Ronde River at Troy, Oreg.

Location.--Lat 45°57', long 117°27', in NW¼ sec.4, T.5 N., R.43 E., on left bank 500 ft downstream from bridge at Troy, 600 ft downstream from Wenaha River, and at mile 45.2.

Drainage area.--3,275 sq mi.

Records available.--August 1944 to September 1967. Monthly discharge only August 1944, published in WSP 1317.

Gage.--Water-stage recorder. Datum of gage is 1,585.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Aug. 17, 1944 to Sept. 30, 1949, wire-weight gage at site 500 ft upstream at datum 10.85 ft lower. Oct. 1, 1949 to Sept. 5, 1963, at site 500 ft upstream at datum 1.15 ft higher.

Average discharge.--23 years, 3,111 cfs (2,252,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,800 cfs May 23 (gage height, 6.99 ft); minimum, 537 cfs Oct. 12, 14.

1944-67: Maximum discharge, 42,200 cfs Dec. 23, 1964 (gage height, 11.25 ft); minimum, 418 cfs Dec. 17, 1964.

Remarks.--Records good. Flow slightly regulated by Wallowa Lake (see sta. no. 3260) and small reservoirs. Diversions for irrigation of about 95,000 acres above station, chiefly in vicinity of La Grande, Enterprise, and Wallowa; one transbasin diversion from Big Sheep Creek and tributaries in Imnaha River basin for irrigation of about 6,500 acres in Wallowa Valley.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	624	710	1,140	1,170	4,560	1,890	2,690	2,670	6,160	5,140	916	690
2	672	710	1,470	1,170	3,810	2,030	2,640	2,620	6,080	4,930	880	656
3	700	700	1,650	1,160	3,330	1,990	2,640	2,670	6,080	5,030	820	640
4	680	700	1,630	1,200	2,930	1,870	2,830	2,860	6,040	4,890	790	632
5	672	730	1,600	1,280	2,860	1,810	2,980	3,110	5,960	4,560	770	632
6	664	760	1,450	1,280	2,760	1,790	3,110	3,470	6,520	4,050	770	632
7	656	750	1,400	1,170	2,570	1,780	3,190	4,240	7,680	3,690	760	616
8	640	720	1,300	1,160	2,380	1,740	3,410	5,220	7,320	3,310	750	616
9	632	720	1,200	1,140	2,270	1,760	3,500	6,160	7,200	3,160	740	608
10	624	710	1,170	1,110	2,170	1,790	3,670	6,920	6,920	2,960	750	586
11	616	750	1,130	1,110	2,090	1,810	3,750	6,520	6,600	2,710	740	632
12	616	810	1,130	1,130	2,010	1,670	3,930	6,040	6,440	2,620	740	760
13	632	870	2,270	1,320	1,930	1,650	3,900	5,680	6,000	2,590	740	750
14	616	952	4,210	2,190	1,890	1,610	3,780	5,360	5,640	2,430	740	710
15	648	1,130	3,360	3,470	1,830	1,600	3,680	5,330	6,080	2,270	740	710
16	656	1,450	2,670	4,340	1,760	1,670	3,400	5,880	6,600	2,030	740	710
17	664	1,420	2,230	3,670	1,780	2,620	3,200	7,440	7,040	1,910	730	710
18	664	1,200	1,990	3,010	2,090	3,580	3,200	8,740	7,360	1,890	710	690
19	672	1,100	1,790	2,640	2,090	3,870	3,000	8,700	7,760	1,740	710	648
20	672	1,060	1,700	2,640	1,910	3,690	3,010	9,060	8,020	1,580	690	624
21	680	1,110	1,650	2,690	1,870	3,640	2,880	9,920	8,160	1,450	700	616
22	780	1,060	1,510	2,590	1,830	3,670	2,710	11,500	8,070	1,470	740	616
23	800	1,030	1,350	2,230	1,830	3,870	2,670	12,200	6,880	1,190	710	608
24	790	964	1,300	1,950	1,810	4,080	2,640	11,350	6,040	1,170	700	616
25	780	964	1,300	1,810	1,810	3,990	2,740	9,920	5,520	1,070	700	616
26	750	1,080	1,280	1,780	1,830	3,690	2,880	8,610	5,520	1,030	710	616
27	770	1,000	1,250	2,050	1,760	3,410	2,960	7,760	5,400	1,000	720	608
28	720	976	1,160	3,840	1,830	3,140	3,030	7,680	5,290	976	730	600
29	700	1,010	1,170	6,200		3,110	2,910	7,720	5,180	964	720	593
30	700	1,040	1,170	7,000	- - - - -	2,910	2,830	7,320	5,220	940	700	608
31	700	- - - - -	1,140	5,800	- - - - -	3,060	- - - - -	6,640	- - - - -	928	700	- - - - -
Total	21,190	28,186	50,770	75,300	63,590	80,790	93,760	209,310	194,780	75,678	23,056	19,349
Mean	684	940	1,638	2,429	2,271	2,606	3,125	6,752	6,493	2,441	744	645
Max	800	1,450	4,210	7,000	4,560	4,080	3,930	12,200	8,160	5,140	916	760
Min	616	700	1,130	1,110	1,760	1,600	2,640	2,620	5,180	928	690	586
Ac-ft	42,030	55,910	100,700	149,400	126,100	160,200	186,000	415,200	386,300	150,100	45,730	38,380

Cal yr 1966: Total 603,587 Mean 1,654 Max 7,400 Min 544 Ac-ft 1,197,000
Wtr yr 1967: Total 935,759 Mean 2,564 Max 12,200 Min 586 Ac-ft 1,856,000

Peak discharge (base 9,000 cfs).--May 23 (0630) 12,800 cfs (6.99 ft).

13-3343. Snake River near Anatone, Wash.

Location.--Lat 46°05'55", long 116°58'30", in SE¼NE¼ sec.12, T.7 N., R.46 E., on left bank 1½ miles downstream from Grande Ronde River, 7.8 miles east of Anatone, 22 miles south of Clarkston, and at mile 167.2.

Drainage area.--92,960 sq mi, approximately.

Records available.--July 1958 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 806.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--9 years, 32,440 cfs (23,490,000 acre-ft per year).

Extremes.--Maximum discharge during year, 115,000 cfs June 22 (gage height, 16.90 ft); minimum, 11,100 cfs Aug. 28 (gage height, 2.92 ft).

1958-67: Maximum discharge, 128,000 cfs May 1, 1965 (gage height, 18.09 ft); minimum, 6,010 cfs Sept. 2, 1958 (gage height, 1.29 ft).

Remarks.--Records excellent. Flow regulated by many powerplants and diversions upstream. Diversions for irrigation of about 2,837,000 acres (1948 determination) above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16.300	20.700	20.400	19.600	36.700	21.600	25.500	20.400	75.400	74.300	19.200	17.200
2	16.500	20.800	22.400	17.600	33.500	21.300	23.300	19.600	78.200	61.300	19.800	19.400
3	14.200	20.200	22.700	17.700	32.700	21.900	21.100	20.400	78.100	57.000	22.400	14.700
4	16.600	19.500	19.000	18.200	31.700	23.100	25.800	20.600	72.400	59.800	19.000	14.500
5	18.800	17.600	19.600	17.900	31.300	20.300	26.100	20.000	72.300	56.700	18.400	14.400
6	18.100	15.400	24.500	20.400	31.800	17.200	24.500	25.800	79.700	52.700	18.400	15.900
7	18.600	15.500	22.900	24.400	32.200	19.800	25.600	27.500	84.800	49.200	15.000	17.300
8	18.600	19.400	25.000	23.100	30.000	20.600	24.200	27.700	88.000	43.200	17.300	19.000
9	16.600	20.200	25.400	20.800	29.600	20.600	24.300	44.600	86.000	40.400	18.100	18.600
10	15.800	19.000	24.600	23.100	28.900	20.500	22.500	54.100	86.300	39.400	17.800	19.500
11	20.700	18.200	20.100	23.700	29.500	20.000	26.100	54.800	83.600	38.900	19.200	16.800
12	19.100	19.700	19.500	22.600	27.900	16.200	25.500	53.200	79.400	36.300	20.800	18.400
13	18.600	17.300	22.100	21.900	26.900	16.400	29.000	50.000	83.800	36.400	17.700	20.000
14	17.500	16.100	24.400	21.900	23.100	20.400	30.000	46.300	75.700	34.800	13.900	20.800
15	17.600	18.800	23.500	22.600	21.800	23.800	29.100	44.800	76.800	32.900	15.000	20.600
16	14.500	22.300	25.600	22.000	20.400	20.100	27.800	43.200	79.200	30.100	16.100	20.200
17	17.300	22.500	23.700	26.900	21.600	23.100	21.900	46.700	94.100	27.400	16.800	21.200
18	20.200	22.400	20.800	27.000	20.600	29.000	26.000	57.000	96.800	27.000	14.600	17.400
19	18.800	22.400	19.700	24.300	20.800	25.000	21.600	64.000	107.000	27.300	14.700	22.000
20	18.500	19.000	21.000	26.900	20.000	20.400	22.600	67.900	110.000	27.900	14.100	19.500
21	20.600	18.400	20.100	27.400	21.300	29.000	25.100	71.400	112.000	25.900	12.600	19.400
22	20.200	22.500	21.000	27.900	23.700	29.700	22.000	82.300	114.000	25.600	12.400	18.100
23	17.300	22.700	21.900	27.500	24.200	29.100	18.100	95.200	110.000	23.200	15.900	18.900
24	13.800	20.200	21.500	27.100	23.600	30.700	17.500	106.000	100.000	19.700	17.000	17.500
25	18.800	16.800	17.100	27.600	22.500	29.600	19.000	103.000	92.600	22.800	16.900	15.200
26	19.000	19.600	16.000	27.400	19.400	26.100	19.800	92.200	88.800	22.300	15.600	17.300
27	20.200	18.800	16.500	27.300	18.800	21.600	21.600	82.800	84.800	21.500	14.200	17.900
28	20.200	16.800	19.400	31.000	21.600	28.000	23.000	78.200	74.300	19.700	12.600	16.200
29	19.300	20.000	19.400	36.300		28.400	22.200	78.600	77.700	19.700	15.500	16.700
30	19.800	19.200	19.500	42.000	- - - - -	29.500	21.900	81.500	77.700	19.800	15.100	16.400
31	18.200	- - - - -	19.200	40.900	- - - - -	28.700	- - - - -	80.600	- - - - -	16.700	16.400	- - - - -
Total	560.300	582.000	658.500	785.000	726.100	731.700	712.700	1.760.400	2.619.500	1.089.900	512.500	541.000
Mean	18,070	19,400	21,240	25,320	25,930	23,600	23,760	56,790	87,320	35,160	16,530	18,030
Max	20,700	22,700	25,600	42,000	36,700	30,700	30,000	106,000	114,000	74,300	22,400	22,000
Min	14,200	15,400	16,000	17,600	18,800	16,200	17,500	19,600	72,300	16,700	12,400	14,400
Ac-ft	1,111,000	1,154,000	1,306,000	1,557,000	1,440,000	1,451,000	1,414,000	3,492,000	5,196,000	2,162,000	1,017,000	1,073,000

Cal yr 1966: Total 8,748,100 Mean 23,970 Max 52,200 Min 10,400 Ac-ft 17,352,000
Wtr yr 1967: Total 11,279,600 Mean 30,900 Max 114,000 Min 12,400 Ac-ft 22,373,000

13-3530. Snake River below Ice Harbor Dam, Wash.

Location.--Lat 46°15'00", long 118°53'45", in SE¼NW¼ sec.23, T.9 N., R.31 E., on right bank 1 mile downstream from Ice Harbor Dam and 7 miles northeast of Burbank.

Drainage area.--108,500 sq mi, approximately.

Records available.--October 1907 to March 1917 (gage heights only October 1907 to August 1909), March 1962 to September 1967. Published as "at Burbank" prior to 1911 and as "near Burbank" 1912-17.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, supplementary adjustment of 1947. Auxiliary water-stage recorder 2.4 miles downstream from base gage. Oct. 2, 1907, to Mar. 31, 1917, staff gage at site approximately 1 mile downstream at datum 300 ft higher.

Extremes.--Maximum discharge during year, 208,000 cfs May 24 (elevation, 351.29 ft); minimum daily, 12,000 cfs Sept. 4; minimum elevation, 336.20 ft Aug. 22.

1909-17, 1962-67: Maximum discharge observed, 298,000 cfs May 29, 1913 (gage height, 51.8 ft, site and datum then in use); no flow momentarily Aug. 27, 1965 (result of testing at Ice Harbor Dam); minimum daily discharge, 9,870 cfs Aug. 20, 1966.

Flood of May 30, 1948, reached an elevation of 361.9 ft at a site 0.3 mile upstream, from information by Corps of Engineers.

Remarks.--Records fair. Diversions for irrigation of over 2,840,000 acres above station. Flow regulated by Lake Sacajawea and many storage reservoirs and power plants upstream. Records of chemical analyses for water year 1967 are published in Part 2 of this report.

Discharge, in thousands of cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21.5	28.1	28.5	24.2	62.7	30.9	43.3	48.1	139	108	23.6	21.1
2	17.4	20.7	23.5	22.7	55.8	31.4	40.5	44.5	140	99.9	22.4	17.7
3	16.0	31.6	31.5	24.8	50.2	30.2	44.3	43.2	155	84.1	23.8	20.4
4	18.5	20.3	31.3	25.2	49.0	34.2	36.4	39.2	150	79.2	28.6	12.0
5	30.1	24.5	32.9	25.9	46.3	30.6	39.5	39.4	137	81.7	23.2	21.9
6	16.5	24.4	21.1	24.9	47.8	30.1	39.1	36.7	135	75.9	22.6	21.1
7	20.8	23.3	32.6	25.0	45.2	28.9	43.3	49.5	148	70.9	22.2	20.4
8	22.3	15.7	32.5	29.7	44.8	32.1	45.7	59.1	152	67.0	21.8	19.3
9	21.1	27.1	31.0	32.6	45.1	25.2	45.6	73.4	151	57.5	18.8	20.0
10	20.8	18.8	31.6	27.3	44.8	29.4	39.6	94.2	152	55.5	22.0	17.1
11	17.2	22.9	30.3	26.1	44.5	31.8	44.0	106	148	54.8	21.4	24.4
12	24.4	22.6	28.4	29.8	43.0	31.1	46.6	109	145	53.7	23.0	20.7
13	19.1	21.9	19.5	28.5	36.6	27.0	47.8	104	140	50.3	23.7	20.7
14	22.6	24.6	31.6	29.3	29.1	24.5	51.4	92.8	139	48.4	21.7	24.8
15	20.9	26.6	40.2	30.0	34.6	24.2	53.1	85.0	129	46.0	19.4	24.3
16	19.8	24.0	39.1	40.2	30.4	31.8	50.8	82.9	132	43.0	18.8	23.2
17	19.3	35.1	35.6	45.9	30.6	31.5	46.0	84.8	139	39.2	19.4	21.8
18	18.7	26.6	30.3	45.1	31.6	37.0	44.9	103	154	35.3	21.3	21.8
19	22.3	33.2	29.6	42.0	29.9	44.1	45.8	126	158	34.6	19.1	22.4
20	28.1	30.3	27.2	40.9	30.0	45.6	45.5	135	167	35.0	18.6	21.6
21	17.9	26.4	27.9	38.0	28.9	38.1	46.2	138	172	35.0	20.2	22.4
22	22.5	18.8	26.0	40.7	28.4	45.7	45.7	152	173	32.4	19.6	20.1
23	23.4	29.1	28.5	41.9	30.5	47.1	42.6	181	168	32.5	12.7	19.6
24	26.7	28.5	28.9	41.6	32.0	51.0	41.5	202	156	29.1	19.4	19.8
25	16.6	29.6	25.8	36.2	30.6	54.8	39.4	198	141	26.3	17.0	20.4
26	29.9	21.9	25.8	36.2	30.0	51.8	39.2	179	131	28.8	14.2	17.4
27	20.9	21.8	20.5	39.1	28.7	45.3	40.8	156	122	28.1	16.8	19.4
28	29.6	23.9	22.6	40.4	27.6	44.0	43.5	145	118	28.5	21.7	17.2
29	21.8	25.9	25.3	48.9		46.1	44.3	142	107	26.6	22.3	19.0
30	24.9	20.0	26.5	69.0	- - - - -	44.9	45.7	151	108	24.2	20.2	19.4
31	23.4	- - - - -	23.8	70.1	- - - - -	44.2	- - - - -	146	- - - - -	24.2	19.1	- - - - -
Total	675.0	748.2	889.9	1,122.2	1,068.7	1,144.6	1,322.1	3,345.8	4,306.0	1,535.7	638.6	611.4
Mean	21.77	24.94	28.71	36.20	38.17	36.92	44.07	107.9	143.5	49.54	20.60	20.38
Max	30.1	35.1	40.2	70.1	62.7	54.8	53.1	202	173	108	28.6	24.8
Min	16.0	15.7	19.5	22.7	27.6	24.2	36.4	36.7	107	24.2	12.7	12.0
Ac-ft	1,339	1,484	1,765	2,226	2,120	2,270	2,622	6,636	8,541	3,046	1,267	1,213

Cal yr 1966: Total 13,646.770 Mean 37.39 Max 113 Min 9.87 Ac-ft 27,068
Wtr yr 1967: Total 17,408.200 Mean 47.69 Max 202 Min 12.0 Ac-ft 34,529

All figures expressed in thousands.

WALLA WALLA RIVER BASIN

14-0100. South Fork Walla Walla River near Milton, Oreg.

Location.--Lat 45°49'48", long 118°10'08", in NE¼NE¼ sec.15, T.4 N., R.37 E., on right bank 1 mile downstream from Elbow Creek, 13 miles southeast of Milton, and at mile 59.1.

Drainage area.--63 sq mi, approximately.

Records available.--February to October 1903, August 1906 to November 1917, May 1931 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "12 miles above Milton" 1903 and as "above Pacific Power & Light Co.'s intake near Milton" 1907-10.

Gage.--Water-stage recorder. Altitude of gage is 2,050 ft (from river-profile map). Prior to Mar. 23, 1934, water-stage recorder or staff gage at several sites within 1.5 miles of present site at various datums.

Average discharge.--46 years (1907-17, 1931-67), 174 cfs (126,000 acre-ft per year).

Extremes.--Maximum discharge during year, 490 cfs May 21 (gage height, 2.63 ft); minimum, 89 cfs Oct. 8-12.
1903, 1906-17, 1931-67: Maximum discharge, 2,530 cfs Jan. 29, 1965 (gage height, 5.60 ft); minimum, 72 cfs Feb. 14, 1932. Maximum stage known, about 6 ft Mar. 31, 1931, present site and datum.

Remarks.--Records good. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	93	130	120	232	152	145	165	232	118	93	93
2	115	93	138	118	207	152	142	170	232	115	93	93
3	93	93	150	120	185	142	145	180	225	112	93	93
4	91	91	148	125	180	138	152	188	219	110	93	93
5	91	93	145	128	178	135	160	207	219	112	93	93
6	91	95	140	128	170	132	155	213	219	110	93	93
7	91	93	132	120	168	130	162	253	216	108	93	93
8	89	91	122	115	162	130	168	284	210	105	93	93
9	89	91	118	112	155	135	165	292	204	105	93	93
10	89	91	118	110	152	132	170	260	195	102	93	93
11	89	93	118	118	150	130	172	228	190	100	93	100
12	89	105	138	128	145	128	168	232	188	100	93	95
13	91	105	256	162	150	128	168	253	182	98	93	93
14	91	112	242	210	145	128	162	284	178	98	93	93
15	91	128	190	296	142	125	160	292	175	98	93	93
16	91	165	168	280	140	142	155	335	175	98	93	93
17	91	140	150	222	148	170	152	405	172	100	93	93
18	91	120	140	192	160	178	155	390	170	98	93	93
19	91	112	135	182	155	172	158	370	165	98	93	93
20	95	122	132	213	152	170	168	390	162	98	93	91
21	93	118	128	213	150	165	165	425	175	98	93	91
22	110	112	122	192	150	175	170	440	160	95	93	91
23	112	108	120	178	150	190	182	400	150	95	93	91
24	102	105	118	165	150	188	188	345	142	95	93	91
25	100	118	115	158	152	178	182	296	138	95	93	91
26	98	128	112	152	150	168	178	276	130	95	93	91
27	95	118	110	165	148	160	178	276	128	95	93	91
28	93	118	110	335	148	158	170	284	125	95	93	91
29	91	118	115	435		155	168	272	122	93	93	91
30	95	115	112	380	- - - - -	150	165	246	120	93	93	93
31	93	- - - - -	112	276	- - - - -	148	- - - - -	232	- - - - -	93	93	- - - - -
Total	2,924	3,284	4,284	5,848	4,474	4,684	4,928	8,883	5,318	3,125	2,883	2,779
Mean	94.3	109	138	189	160	151	164	287	177	101	93.0	92.6
Max	115	165	256	435	232	190	188	440	232	118	93	100
Min	89	91	110	110	140	125	142	165	120	93	93	91
Cfsm	1.50	1.73	2.19	3.00	2.54	2.40	2.60	4.56	2.81	1.60	1.48	1.47
In.	1.72	1.94	2.53	3.45	2.64	2.77	2.91	5.24	3.14	1.84	1.70	1.64
Ac-ft	5,800	6,510	8,500	11,600	8,870	9,290	9,770	17,620	10,550	6,200	5,720	5,510

Cal yr 1966:	Total	52,730	Mean	144	Max	405	Min	87	Cfsm	2.29	In.	31.13	Ac-ft	104,600
Wtr yr 1967:	Total	53,414	Mean	146	Max	440	Min	89	Cfsm	2.32	In.	31.53	Ac-ft	105,900

Peak discharge (base, 600 cfs).--No peak above base.

14-0110. North Fork Walla Walla River near Milton, Oreg.

Location.--Lat 45°54'08", long 118°16'55", in NE¼NW¼ sec.23, T.5 N., R.36 E., on right bank 5 miles southeast of Milton, and at mile 1.2.

Drainage area.--42 sq mi, approximately.

Records available.--January 1930 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 1,467 ft above mean sea level (levels by U.S.G.S. Topographic Division). Prior to Oct. 23, 1948, at several sites 0.7 mile downstream at various datums.

Average discharge.--37 years, 47.8 cfs (34,610 acre-ft per year).

Extremes.--Maximum discharge during year, 280 cfs May 13 (gage height, 4.42 ft); maximum gage height, 4.60 ft Jan. 29 (backwater from debris); minimum discharge, 1.0 cfs Aug. 1.

1930-67: Maximum discharge, 2,050 cfs Jan. 30, 1965 (gage height, 8.05 ft); minimum, 0.90 cfs Aug. 17, 1955, Aug. 28, 29, 1961.

Remarks.--Records fair. No regulation. Diversions above station for irrigation of about 150 acres, of which 20 acres is below station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	8.0	35	25	112	39	51	69	32	4.7	1.2	1.6
2	6.8	7.8	41	25	88	40	52	71	32	4.1	1.3	2.0
3	6.5	7.5	47	26	74	37	55	76	30	3.7	2.0	2.8
4	5.1	7.2	49	28	65	34	58	81	26	2.8	2.6	3.2
5	4.3	7.2	48	32	61	33	62	112	23	2.8	2.1	2.0
6	3.7	8.3	46	32	56	33	59	121	20	3.2	2.3	1.6
7	3.7	8.3	44	30	51	33	59	152	18	3.1	2.0	1.9
8	4.7	8.0	40	26	48	33	64	176	18	3.1	1.6	2.1
9	5.8	7.8	34	26	46	35	64	184	18	3.1	1.6	2.1
10	5.8	7.5	32	26	44	35	68	156	15	2.8	1.6	3.2
11	5.8	8.0	32	31	42	35	71	124	13	2.6	2.5	3.2
12	5.5	13	40	36	39	32	71	189	14	2.0	3.2	2.8
13	6.0	13	158	61	39	35	72	238	14	2.5	3.2	1.7
14	6.0	13	152	102	36	34	71	212	12	2.6	2.1	1.6
15	6.2	16	118	142	34	34	62	173	12	2.5	1.6	2.0
16	5.8	39	81	145	32	42	56	180	11	2.0	1.2	2.7
17	5.8	36	62	127	35	65	50	225	11	2.0	1.3	2.7
18	6.0	28	51	98	45	77	56	216	9.5	2.0	1.4	2.6
19	6.0	22	46	79	45	77	59	170	7.8	2.3	2.0	2.6
20	6.2	27	44	116	43	69	85	152	7.0	1.7	2.1	2.5
21	7.5	26	43	133	44	62	100	145	8.9	2.5	2.0	2.5
22	9.5	22	38	115	43	62	121	127	8.3	2.6	2.0	2.5
23	13	20	35	85	42	71	133	112	8.0	2.1	1.2	2.6
24	11	18	33	68	41	72	118	92	7.2	2.5	1.3	1.6
25	10	19	31	58	41	68	105	72	6.5	1.9	1.4	1.6
26	9.2	39	28	51	39	61	88	59	5.1	1.6	2.5	1.9
27	9.8	32	25	62	36	54	83	52	5.1	1.9	2.6	2.0
28	9.5	30	23	156	36	50	76	48	5.1	1.9	3.0	2.3
29	8.6	35	24	230	- - - - -	50	72	44	4.7	2.0	1.9	2.5
30	8.6	32	23	225	- - - - -	50	71	39	4.7	2.7	1.2	2.7
31	8.0	- - - - -	23	156	- - - - -	50	- - - - -	33	- - - - -	2.5	1.6	- - - - -
Total	213.6	565.6	1,526	2,552	1,357	1,502	2,212	3,900	406.9	79.8	59.6	69.1
Mean	6.89	18.9	49.2	82.3	48.5	48.5	73.7	126	13.6	2.57	1.92	2.30
Max	13	39	158	230	112	77	133	238	32	4.7	3.2	3.2
Min	3.2	7.2	23	25	32	32	50	33	4.7	1.6	1.2	1.6
Ac-ft	424	1,120	3,030	5,060	2,690	2,980	4,390	7,740	807	158	118	137

Cal yr 1966: Total 12,674.4 Mean 34.7 Max 218 Min 2.0 Ac-ft 25,140
Wtr yr 1967: Total 14,443.6 Mean 39.6 Max 238 Min 1.2 Ac-ft 28,650

Peak discharge (base, 300 cfs).--No peak above base.

Springs in the Walla Walla River basin, Oreg.-Wash.

Ground-water overflow through many springs on the alluvial fan of the Walla Walla River near Milton-Freewater, Oreg., amounts to about 50,000 acre-feet a year. During the irrigation season practically all the overflow is used to water crops on land not served by diversion from the river. A survey made in 1933 listed 57 springs or spring groups in the area, arranged in "inner," "intermediate," and "outer" zones concentric about the apex of the alluvial fan.[1]

The inner zone is 3 to 3½ miles below Milton-Freewater and extends from the vicinity of Nicholas Spring, which is about half a mile east of the Walla Walla River at McCoy Bridge, to springs in the vicinity of Dugger Creek. Within this zone are fully three-fourths of the springs in the Walla Walla basin. The intermediate and outer zones, each of which contains only a few springs, are about 2 miles and 4 miles, respectively, beyond the inner zone.

In order to bring about a more effective use of the available water supply through a better understanding of the relation between surface- and ground-water supplies in the basin, discharge measurements of each of the principal springs and measurements of ground-water levels in representative wells have been made and the results published periodically since 1932.

Discharge measurements, in cubic feet per second, of springs in Walla Walla River basin, Oreg.-Wash., during water year October 1966 to September 1967

Date	Spring	Location	Discharge (cfs)
Springs of the inner zone			
Nov. 17	Engle Spring, Oreg.	NW¼SE¼ sec.23, T.6 N., R.35 E., total flow at diversion dam	2.45
Jan. 17	.....do	.....do	2.57
Apr. 6	.....do	.....do	2.59
June 8	.....do	.....do	3.39
Sept. 28	.....do	.....do	3.01
Springs of the intermediate and outer zones			
Nov. 17	Lewis Spring, Oreg.	NW¼NW¼ sec.23, T.6 N., R.35 E., below road crossing	1.57
Jan. 17	.....do	.....do	1.22
Apr. 6	.....do	.....do	1.05
June 8	.....do	.....do	1.90
Sept. 28	.....do	.....do	1.86
Nov. 17	Unnamed Spring, Wash.	NW¼NE¼ sec.16, T.6 N., R.35 E., at small diversion structure	1.93
Jan. 17	.....do	.....do	1.08
Apr. 6	.....do	.....do	.67
June 8	.....do	.....do	1.02
Sept. 28	.....do	.....do	1.40
Nov. 17	East Mud Creek (west prong), Oreg.	SW¼SW¼ sec.22, T.6 N., R.35 E., at two weirs	1.33
Jan. 17	.....do	.....do	.46
Apr. 6	.....do	.....do	.36
June 8	.....do	.....do	1.32
Sept. 28	.....do	.....do	.93

[1] Piper, A.M., Robinson, T.W., and Thomas, H.E., Ground Water in the Walla Walla Basin, Oreg.-Wash: Supreme Court of the United States, October term 1935, State of Washington vs. State of Oregon, transcript of record, p. 132A, October 14, 1935.

14-0192. Columbia River at McNary Dam, near Umatilla, Oreg.
(formerly published as Columbia River below McNary Dam, near Umatilla, Oreg.)

Location.--Lat 45°56'05", long 119°17'45", in NE¼ sec.10, T.5 N., R.28 E., in powerhouse forebay between generator units 2 and 3 at McNary Dam, 2.5 miles northeast of Umatilla, 3.0 miles upstream from Umatilla River, and at mile 292.0.

Drainage area.--214,000 sq mi, approximately.

Records available.--October 1950 to September 1967. Gage-height records collected at site at Umatilla since 1876 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1966, water-stage recorder 1.2 miles downstream (tailwater) at datum 240.04 ft above mean sea level.

Average discharge.--17 years, 185,800 cfs (134,500,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 597,000 cfs June 11, 19; maximum forebay elevation, 340.5 ft Nov. 23, Jan. 7; minimum daily discharge, 85,600 cfs Oct. 29; minimum forebay elevation, 335.0 ft Mar. 9.

1950-66: Maximum discharge, 818,000 cfs June 2, 1956 (gage height, 36.97 ft, site and datum then in use); minimum, 50,600 cfs Jan. 29, 1957 (gage height, 8.74 ft, site and datum then in use).

1966-67: Maximum daily discharge, 597,000 cfs June 11, 19, 1967; minimum daily discharge, 85,600 cfs Oct. 29, 1966.

Flood of June 5, 1894, reached an elevation of 284.2 ft, and that of May 31, 1948, reached an elevation of about 280 ft, both at site 1.2 miles downstream, from information by Corps of Engineers.

Remarks.--Records computed from power output and flow over spillway at McNary Dam. Some regulation by Franklin D. Roosevelt Lake and by reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Chelan, Yakima, and Snake River basins. Diurnal fluctuation caused by powerplant and gates at McNary Dam since beginning of operation in April 1953. Many diversions for irrigation above station. Records of monthly chemical analysis for the water year 1967 are published in Part 2 of this report.

Cooperation.--Records furnished by Corps of Engineers, Walla Walla District, and reviewed by Geological Survey.

Discharge, in thousands of cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	97.2	92.0	88.3	132	118	136	123	435	522	201	115
2	87.9	89.4	95.4	96.0	124	136	121	134	442	519	213	86.6
3	89.3	101	99.8	115	118	143	143	124	483	490	205	86.6
4	88.7	101	101	126	106	125	133	126	501	479	212	86.2
5	88.7	96.4	113	133	99.1	106	115	126	517	456	200	86.8
6	89.6	89.3	125	124	129	113	134	125	533	449	179	88.5
7	90.5	90.9	123	124	139	131	152	114	560	465	165	106
8	93.6	86.7	106	86.1	129	129	160	157	583	425	167	111
9	89.2	86.6	103	108	139	142	122	154	588	412	163	112
10	90.8	88.9	108	130	129	132	126	146	596	403	145	105
11	92.9	88.8	100	112	123	86.4	120	218	597	393	130	99.4
12	116	85.8	90.5	114	118	111	164	200	593	357	124	109
13	121	85.8	91.7	106	121	135	136	185	588	342	123	119
14	110	85.8	120	98.9	131	142	131	166	584	345	140	121
15	90.4	87.5	116	105	132	127	103	156	581	334	141	118
16	89.7	87.7	114	122	121	120	104	194	581	325	146	103
17	88.2	96.5	107	149	109	118	142	201	583	301	140	88.5
18	86.7	111	95.7	124	101	117	175	206	591	289	151	98.3
19	86.7	106	97.6	135	106	112	154	234	597	298	129	114
20	90.0	91.2	108	122	110	120	165	278	594	277	128	117
21	90.8	92.4	124	112	122	134	132	290	592	262	150	139
22	89.5	93.4	125	104	137	138	126	313	590	263	153	116
23	90.0	128	127	114	123	140	129	376	590	258	120	87.0
24	88.6	107	129	145	138	167	163	415	586	242	108	88.2
25	90.1	93.6	96.8	124	110	129	162	428	586	250	109	107
26	85.7	89.4	91.9	129	99.7	118	150	434	586	251	125	109
27	88.1	85.9	110	113	113	120	147	387	595	252	110	108
28	88.6	86.4	105	103	130	150	150	420	593	249	128	102
29	85.6	93.1	115	105		149	127	420	576	232	156	100
30	87.2	99.7	104	131	- - - - -	126	120	422	552	195	156	106
31	87.7	- - - - -	118	171	- - - - -	160	- - - - -	422	- - - - -	169	117	- - - - -
Total	2,851.8	2,822.4	3,352.4	3,669.3	3,388.8	3,994.4	4,142	7,694	16,973	10,504	4,634	3,133.1
Mean	92.0	94.1	108.1	118.4	121.0	128.9	138.1	248.2	565.8	338.8	149.5	104.4
Max	121.0	128.0	129.0	171.0	139.0	167.0	175.0	434.0	597.0	522.0	213.0	139.0
Min	85.6	85.8	90.5	86.1	99.1	86.4	103.0	114.0	435.0	169.0	108.0	86.2
Ac-ft	5,656	5,598	6,649	7,278	6,722	7,923	8,216	15,261	33,670	20,830	9,191	6,214

Cal yr 1966: Total 56,334 Mean 154.3 Max 391 Min 84.3 Ac-ft 111,700
Wtr yr 1967: Total 67,159 Mean 184.0 Max 597 Min 85.6 Ac-ft 133,200

Note.--All figures expressed in thousands.

14-0200. Umatilla River above Meacham Creek, near Gibbon, Oreg.

Location.--Lat 45°43'11", long 118°19'20", in SE¼SW¼ sec.21, T.3 N., R.36 E., on right bank 0.8 mile downstream from Ryan Creek, 2.2 miles upstream from Meacham Creek, 2.5 miles northeast of Gibbon, and at mile 83.1.

Drainage area.--131 sq mi.

Records available.--April 1933 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,854.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 27, 1939, graphic water-stage recorder at site 1 mile downstream at datum 43.94 ft lower. June 27, 1939 to Apr. 11, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--34 years, 220 cfs (159,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,520 cfs Dec. 13 (gage height, 5.43 ft); minimum, 38 cfs Aug. 31.

1933-67: Maximum discharge, 4,910 cfs Jan. 29, 1965 (gage height, 9.50 ft), from rating curve extended above 2,100 cfs by logarithmic plotting; minimum, 16 cfs Nov. 9, 1965.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41	47	175	138	448	218	244	288	268	81	45	64
2	53	46	220	140	372	220	238	296	265	78	45	65
3	48	46	232	160	316	208	241	312	253	75	44	65
4	44	46	223	195	280	195	247	336	244	72	44	65
5	45	47	208	198	271	188	262	392	238	69	44	66
6	42	54	190	175	265	180	256	428	232	66	44	68
7	42	51	180	156	253	175	265	575	226	65	44	66
8	42	49	166	144	238	172	288	672	218	64	44	65
9	41	50	150	140	226	180	296	690	210	61	43	65
10	41	52	144	138	213	180	296	565	203	60	43	66
11	42	55	124	150	200	175	316	452	193	58	42	78
12	43	80	162	175	190	166	300	520	188	57	43	74
13	46	77	1,140	296	190	170	304	660	188	55	42	69
14	44	84	858	468	183	168	288	726	180	54	41	68
15	44	95	436	625	178	168	268	708	170	53	41	68
16	43	166	304	610	170	195	250	762	168	53	41	68
17	43	148	241	428	188	271	238	870	164	54	42	68
18	42	116	200	340	229	324	241	810	160	52	42	68
19	43	96	180	284	223	320	241	708	154	51	41	68
20	49	122	170	340	212	308	262	672	148	51	41	66
21	50	126	158	384	215	284	277	684	156	50	41	66
22	73	116	148	336	218	268	312	684	156	49	41	66
23	65	105	140	277	218	340	344	604	136	48	41	66
24	58	96	132	241	220	350	340	495	126	48	65	68
25	53	108	126	215	223	316	332	424	116	47	65	68
26	51	160	118	205	212	284	320	376	108	46	65	66
27	50	150	108	388	202	256	316	352	102	46	65	66
28	48	140	107	1,090	205	241	296	360	95	46	65	66
29	47	144	112	1,230	------	241	284	360	90	46	65	68
30	48	144	114	898	------	229	284	316	86	46	64	72
31	47	------	116	600	------	241	------	277	------	45	64	------
TOTAL	1,468	2,816	7,082	11,164	6,558	7,251	8,446	16,374	5,241	1,746	1,497	2,022
MEAN	47.4	93.9	228	360	234	234	282	528	175	56.3	48.3	67.4
MAX	73	166	1,140	1,230	448	350	344	870	268	81	65	78
MIN	41	46	107	138	170	166	238	277	86	45	41	64
CFSM	.36	.72	1.74	2.75	1.79	1.79	2.15	4.03	1.33	.43	.37	.51
IN.	.42	.80	2.01	3.17	1.86	2.06	2.40	4.65	1.49	.50	.42	.57
AC-FT	2,910	5,590	14,050	22,140	13,010	14,380	16,750	32,480	10,400	3,460	2,970	4,010

CAL YR 1966: TOTAL 52,759 MEAN 145 MAX 1,140 MIN 41 CFSM 1.10 IN 14.98 AC-FT 104,600
WAT YR 1967: TOTAL 71,665 MEAN 196 MAX 1,230 MIN 41 CFSM 1.50 IN 20.35 AC-FT 142,100

Peak discharge (base, 1,400 cfs).--Dec. 13 (1700 hrs) 1,520 cfs (5.43 ft).

14-0210. Umatilla River at Pendleton, Oreg.

Location.--Lat 45°40'35", long 118°46'44", in SE¼SW¼ sec.2, T.2 N., R.32 E., on center bridge pier of SE 8th Street bridge at Pendleton, 1.1 miles downstream from Wildhorse Creek, 3.6 miles upstream from McKay Creek, and at mile 55.6.

Drainage area.--637 sq mi.

Records available.--February 1891 to July 1892, May 1903 to June 1905 (gage heights and discharge measurements only June to December 1904), October 1934 to September 1967. Monthly discharge only February 1891 to July 1892, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,064.02 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. February 1891 to July 1892 and May 22, 1903, to June 11, 1905, staff gage at Main Street bridge 0.5 mile downstream at different datums. Oct. 1, 1934, to May 15, 1958, graphic water-stage recorder at site 1,500 ft downstream at datum 1.63 ft lower. May 16 to July 2, 1958, wire-weight gage at Main Street bridge at different datum. July 3 to Dec. 11, 1958, graphic water-stage recorder at site 900 ft downstream at different datum. Dec. 12, 1958, to Apr. 23, 1959, wire-weight gage at Main Street bridge site at different datum. Apr. 24 to Aug. 26, 1959, wire-weight gage and Aug. 27, 1959, to Feb. 4, 1965, graphic water-stage recorder at present site at datum 2.99 ft higher. Feb. 5 to Nov. 18, 1965, wire-weight gage at Main Street bridge site. Nov. 19, 1965, to Mar. 28, 1967, graphic water-stage recorder at 3.58 ft higher datum.

Average discharge.--33 years (1934-67), 488 cfs (353,300 acre-ft per year).

Extremes.--Maximum discharge during year, 4,710 cfs Dec. 13 (gage height, 4.38 ft); minimum, 20 cfs Aug. 30, 31.

1891-92, 1903-5, 1934-67: Maximum discharge, 15,500 cfs Jan. 30, 1965 (gage height, 9.40 ft, datum then in use); minimum, 10 cfs July 13-16, 1940.

Maximum flood known, 17,000 cfs Dec. 14, 1882 (date and discharge from data furnished by Corps of Engineers). Flood of May 30-31, 1906, reached a stage of 11.0 ft, 1934-58 site and datum, but before channel was improved (discharge, 15,500 cfs, estimated by Corps of Engineers).

Remarks.--Records good except those for period July 29 to Aug. 27, which are poor. No regulation. Many diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	43	60	270	262	1,370	540	618	779	415	78	36	26
2	49	60	444	285	1,110	575	603	779	400	75	35	24
3	50	59	477	300	920	554	596	788	385	70	34	26
4	53	59	490	385	797	504	618	797	360	61	33	26
5	50	60	484	456	746	474	666	860	335	61	32	29
6	48	68	432	450	722	450	674	910	320	54	32	29
7	44	68	398	395	690	426	674	1,080	300	53	31	28
8	44	64	365	360	642	410	738	1,260	295	53	30	28
9	48	63	316	345	589	415	762	1,320	275	56	29	29
10	44	63	292	340	540	426	754	1,190	258	52	29	33
11	46	66	270	365	504	420	770	982	246	49	28	40
12	50	76	288	420	468	390	754	1,080	238	47	27	46
13	54	89	2,560	650	444	390	730	1,410	230	45	26	42
14	55	92	3,030	1,220	432	385	714	1,590	221	45	26	39
15	53	107	1,600	1,640	420	375	658	1,520	206	43	26	37
16	51	170	1,120	1,810	400	395	596	1,490	194	44	26	36
17	51	242	842	1,570	400	603	547	1,590	185	42	25	36
18	51	206	674	1,060	522	815	528	1,520	179	41	25	32
19	50	172	568	870	554	870	534	1,310	168	41	24	35
20	53	168	510	920	528	842	575	1,230	160	41	24	35
21	62	182	474	1,080	540	806	618	1,190	160	41	24	35
22	69	180	420	1,020	534	788	682	1,180	176	41	24	35
23	84	165	380	860	540	890	754	1,060	158	42	24	36
24	74	150	350	730	554	950	762	860	143	37	24	38
25	68	140	315	642	561	890	815	722	133	38	24	38
26	64	200	295	596	554	797	851	618	117	36	24	38
27	66	242	305	1,030	516	706	833	554	110	36	24	39
28	66	230	238	2,570	510	634	833	554	103	37	24	39
29	64	233	238	2,990	------	650	788	568	95	36	25	39
30	63	242	250	2,600	------	596	779	516	86	36	23	44
31	62	------	242	1,780	------	603	------	462	------	36	23	------
TOTAL	1,735	3,976	18,937	29,801	17,107	18,569	20,824	31,769	6,651	1,467	841	1,037
MEAN	56.0	133	611	961	611	599	694	1,025	222	47.3	27.1	34.6
MAX	84	242	3,030	2,990	1,370	950	851	1,590	415	78	36	46
MIN	43	59	238	262	400	375	528	462	86	36	23	24
AC-FT	3,440	7,890	37,560	59,110	33,930	36,830	41,300	63,010	13,190	2,910	1,670	2,060

CAL YR 1966: TOTAL 100,898 MEAN 276 MAX 3,030 MIN 28 AC-FT 200,100
WAT YR 1967: TOTAL 152,714 MEAN 418 MAX 3,030 MIN 23 AC-FT 302,900

Peak discharge (base, 3,500 cfs).--Dec. 13 (1900 hrs) 4,710 cfs (4.38 ft).

14-0225. McKay Creek near Pilot Rock, Oreg.

Location.--Lat 45°32'57", long 118°46'24", in NW¼SE¼ sec.23, T.1 N., R.32 E., on left bank 500 ft upstream from county road bridge, 5.5 miles northeast of Pilot Rock, and at mile 8.2.

Drainage area.--180 sq mi.

Records available.--May to August 1921, October 1926 to June 1928, December 1928 to July 1929, October 1929 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 1,343.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. May 7 to Aug. 14, 1921, staff gage near present site at different datum. Nov. 19, 1926, to Sept. 15, 1932, and Sept. 16, 1932, to Apr. 8, 1941, water-stage recorder at site 600 ft downstream at datums 6.52 and 3.52 ft higher, respectively. Apr. 9, 1941 to July 24, 1963, water-stage recorder 1,000 ft downstream at 7.92 ft lower datum.

Average discharge.--39 years (1926-27, 1929-67), 97.1 cfs (70,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,720 cfs Dec. 13 (gage height, 4.47 ft); no flow at times.

1921, 1926-67: Maximum discharge, 7,400 cfs Jan. 30, 1965 (gage height, 8.40 ft); no flow at times.

Remarks.--Records good. No regulation. Many small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.20	0.80	80	72	276	89	126	190	39	2.9	.40	
2	.20	1.0	128	75	229	89	139	214	34	2.1	.40	
3	.20	.80	130	78	198	84	160	208	31	1.9	0	
4	.20	.80	128	108	175	78	170	198	27	1.0	0	
5	.20	.80	122	132	162	74	178	188	24	1.0	.20	
6	.20	1.2	125	120	144	70	178	178	22	.80	.30	
7	.20	1.2	115	104	130	66	172	175	20	.70	.30	
8	.20	1.2	99	92	118	63	170	175	18	.80	.40	
9	.20	1.3	80	89	108	66	162	178	18	.60	.40	
10	.20	1.7	73	90	98	70	155	180	17	.60	.30	
11	.20	2.3	75	100	92	72	155	160	14	.50	.20	
12	.20	3.3	88	128	85	66	148	266	14	.40	.10	
13	.30	5.1	1,060	247	82	68	141	451	14	.40	0	
14	.30	5.9	628	343	77	68	137	423	13	.40	0	
15	.30	11	347	355	74	64	128	339	11	.40	0	
16	.30	31	244	328	70	72	118	290	10	.40	0	
17	.30	40	188	256	77	139	106	250	9.5	.40	0	
18	.30	33	148	202	102	178	102	208	8.5	.40	0	
19	.30	27	124	175	100	180	100	180	8.5	.40	0	
20	.20	30	110	188	96	170	98	150	9.0	.40	0	
21	.30	40	100	205	102	162	96	128	9.0	.40	0	
22	.40	37	85	202	102	158	96	108	8.0	.40	0	
23	.30	32	77	185	102	162	94	90	8.5	.30	0	
24	.40	26	68	162	98	165	98	75	7.5	.30	0	
25	.60	25	62	144	98	153	120	64	6.3	.40	0	
26	.70	79	59	139	92	139	134	55	5.0	.40	0	
27	.80	70	51	248	87	130	139	48	4.0	.30	0	
28	1.0	58	47	705	87	120	146	47	3.5	.30	0	
29	1.0	64	52	622		126	148	54	3.5	.40	0	
30	1.0	66	66	464	- - - - -	116	162	46	3.5	.30	0	
31	.8	- - - - -	68	351	- - - - -	116	- - - - -	43	- - - - -	.20	0	- - - - -
Total	12.00	696.40	4,827	6,709	3,261	3,373	4,076	5,359	420.3	20.20	3.00	0
Mean	.39	23.2	156	216	116	109	136	173	14.0	.65	.10	0
Max	1.0	79	1,060	705	276	180	178	451	39	2.9	.40	
Min	.20	0.80	47	72	70	63	94	43	3.5	.20	0	0
Ac-ft	24	1,380	9,570	13,310	6,470	6,690	8,080	10,630	834	40	6.0	0

Cal yr 1966: Total 15,033.20 Mean 41.2 Max 1,060 Min 0 Ac-ft 29,820
Wtr yr 1967: Total 28,756.90 Mean 78.8 Max 1,060 Min 0 Ac-ft 57,040

Peak discharge (base, 840 cfs).--Dec. 13 (1400 hrs) 1,720 cfs (4.47 ft);

14-0230. McKay Reservoir near Pendleton, Oreg.

Location.--Lat 45°36'28", long 118°47'30", in SE¼ sec.34, T.2 N., R.32 E., near right end of McKay Dam on McKay Creek, 4 miles south of Pendleton, and at mile 4.9.

Drainage area.--186 sq mi.

Records available.--December 1927 to September 1967.

Gage.--Staff gage. Datum of gage is 0.16 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum contents observed during year, 56,700 acre-ft June 6-9 (gage height, 1,307.0 ft); minimum observed, 231 acre-ft Oct. 7 (gage height, 1,193.4 ft).

1927-67: Maximum contents observed, 73,840 acre-ft June 9, 1950 (gage height, 1,322.0 ft); no usable contents Sept. 7, 1966.

Remarks.--Reservoir is formed by gravel-fill dam with concrete facing, completed in 1926; storage began in 1927. Usable capacity, 73,830 acre-ft, between gage heights 1,182.0 (floor of trashrack structure) and 1,322.0 ft (top of spillway gates). Dead storage, about 6 acre-ft, included in records. Water is used for irrigation of lands along McKay Creek and Umatilla River.

Cooperation.--Gage heights and capacity table furnished by Bureau of Reclamation.

Month-end gage height and contents, water year October 1966 to September 1967

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,192.7	205	-
Oct. 31	1,194.9	291	+86
Nov. 30	1,209.8	1,580	+1,289
Dec. 31	1,240.7	11,340	+9,760
Calendar year 1966	-	-	-13,150
Jan. 31	1,267.8	25,460	+14,120
Feb. 28	1,277.8	32,010	+6,550
Mar. 31	1,287.1	38,810	+6,800
Apr. 30	1,296.4	46,570	+7,760
May 31	1,306.7	56,370	+9,800
June 30	1,298.5	48,460	-7,910
July 31	1,273.3	28,970	-19,490
Aug. 31	1,237.9	10,180	-18,790
Sept. 30	1,229.9	7,080	-3,100
Water year 1966-67	_	_	+6,875

† Gage height usually read at 1600 hrs.

14-0235. McKay Creek near Pendleton, Oreg.

Location.--Lat 45°36'34", long 118°47'55", in SE¼NW¼ sec.34, T.2 N., R.32 E., on right bank 35 ft upstream from diversion dam, 0.2 mile downstream from McKay Dam, 4.5 miles (revised) south of Pendleton, and at mile 4.7.

Drainage area.--186 sq mi.

Records available.--November 1918 to May 1919, October 1919 to September 1923, October 1924 to September 1927, November 1927 to September 1943, April 1944 to October 1947 (irrigation seasons only), March 1948 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Concrete control since Mar. 23, 1928. Datum of gage is 1,163.71 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Apr. 16, 1919, staff gage at site 2 miles upstream at different datum. Apr. 16, 1919, to Sept. 30, 1923, staff gage at site a quarter of a mile upstream at different datum. Oct. 1, 1924, to Jan. 14, 1927, staff gage, and Jan. 15, 1927, to Nov. 15, 1948, water-stage recorder, at several sites within 220 ft of present site at various datums.

Average discharge.--30 years (1932-43, 1948-67), 91.3 cfs (66,100 acre-ft per year).

Extremes.--Maximum discharge during year, 365 cfs July 21, 22 (gage height, 1.53 ft); no flow Oct. 1 to Feb. 28, Sept. 21-30.

1918-23, 1924-67: Maximum discharge observed, 3,250 cfs Feb. 10, 1921 (gage height, 4.4 ft, site and datum then in use), from rating curve extended above 1,200 cfs; no flow at times each year.

Remarks.--Records good above 10 cfs, fair below. Flow completely regulated since 1927 by McKay Reservoir (see sta. no. 0230). Many diversions for irrigation above station. Since 1932, records have excluded flow in Elder ditch which, since 1953, has diverted not over 1.5 cfs at station for irrigation during season and up to 1 cfs (seepage from reservoir) for stock water at other times.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						1.0	2.3	2.3	8.0	294	314	241
2						1.0	2.8	2.8	8.0	290	314	108
3						1.0	2.8	2.8	8.0	290	314	108
4						1.0	2.8	3.4	7.0	286	314	108
5						1.0	2.8	6.0	7.0	286	310	102
6						1.0	3.4	8.0	7.0	286	306	79
7						1.0	2.8	9.5	7.0	282	282	77
8						1.0	2.8	8.0	7.0	282	270	75
9						1.0	2.8	8.0	42	282	302	77
10						1.0	3.4	8.0	113	286	318	77
11						1.5	3.4	8.0	111	298	318	62
12						1.5	3.4	8.0	111	270	314	52
13						1.5	4.1	7.0	111	286	314	38
14						1.5	4.1	8.0	135	306	294	31
15						1.5	4.1	8.0	152	302	274	31
16						1.5	4.1	9.5	152	298	249	31
17						1.5	4.1	8.0	152	298	252	29
18						1.5	4.1	9.5	158	298	282	29
19						1.5	4.1	8.0	197	298	278	29
20						1.5	4.1	9.5	235	294	278	8.3
21						2.0	4.1	8.0	235	310	294	0
22						2.0	3.4	9.5	218	346	302	0
23						2.0	3.4	8.0	214	330	302	0
24						2.0	2.3	9.5	224	326	298	0
25						2.0	2.3	9.5	221	330	298	0
26						2.3	2.3	9.5	238	326	322	0
27						2.3	2.3	9.5	249	326	330	0
28						2.3	2.3	9.5	274	322	326	0
29						2.3	2.8	9.5	294	322	322	0
30					- - - - -	2.3	2.8	9.5	294	318	318	0
31		- - - - -			- - - - -	2.3	- - - - -	9.5	- - - - -	318	314	- - - - -
Total	0	0	0	0	0	48.8	96.3	243.8	4,189.0	9,386	9,323	1,392.3
Mean	0	0	0	0	0	1.57	3.21	7.86	140	303	301	46.4
Max	0	0	0	0	0	2.3	4.1	9.5	294	346	330	241
Min	0	0	0	0	0	1.0	2.3	2.3	7.0	270	249	0
Ac-ft	0	0	0	0	0	97	191	484	8,310	18,620	18,490	2,760

Cal yr 1966: Total 20,758.9 Mean 56.9 Max 286 Min 0 Ac-ft 41,170
Wtr yr 1967: Total 24,679.2 Mean 67.6 Max 346 Min 0 Ac-ft 48,950

Note.--No gage-height record Oct. 1 to Mar. 29.

14-0250. Birch Creek at Rieth, Oreg.

Location (revised).--Lat 45°39'10", long 118°52'45", in SE¼ sec.13, T.2 N., R.31 E., on right bank 600 ft downstream from highway bridge, 0.3 mile southwest of Rieth, and at mile 0.2.

Drainage area.--291 sq mi.

Records available.--May to August 1921, March to July 1922, April to September 1923, April to September 1927, January to June 1928, November 1928 to August 1929, October 1929 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 951.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 4, 1927, staff gage at several sites within 1,400 ft upstream at various datums. Apr. 4, 1927, to Jan. 29, 1928, water-stage recorder and Feb. 3, 1928, to Dec. 16, 1931, staff gage at site 600 ft upstream at different datum. Dec. 17, 1931, to Dec. 29, 1939, water-stage recorder at site 300 ft upstream at datum 1.64 ft higher, and Dec. 30, 1939, to July 24, 1957, at datum 0.78 ft higher.

Average discharge.--38 years (1929-67), 47.3 cfs (34,240 acre-ft per year).

Extremes.--Maximum discharge during year, 295 cfs May 17 (gage height, 2.29 ft); no flow at times.

1921-23, 1927-67: Maximum discharge, 2,200 cfs Jan. 30, 1965 (gage height, 6.40 ft); no flow at times.

Remarks.--Records good except those for October, November, and July to September, which are poor. No regulation. Many diversions for irrigation of 4,000 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.50	23	39	136	39	78	96	40	0.10	0.10	1.2
2	.10	.50	37	38	116	43	58	104	30	.20	.10	.20
3	0	.50	40	37	103	44	49	115	23	.20	.10	.20
4	0	.50	44	37	91	40	65	124	20	.20	.10	.40
5	0	.50	49	43	84	38	72	128	22	.20	.10	.80
6	0	.60	48	44	79	36	81	140	20	.20	.10	.10
7	0	.60	49	43	74	32	82	172	20	.20	.10	.10
8	0	.70	47	38	68	31	91	200	17	.20	.10	.10
9	0	.80	44	37	64	39	92	206	13	.20	.20	.10
10	0	1.0	43	36	58	42	103	238	9.2	.20	.20	.10
11	0	1.2	42	38	56	43	104	202	7.1	.30	.10	.10
12	0	1.5	44	43	54	28	108	194	7.6	.20	0	.10
13	0	2.0	79	50	49	43	106	215	3.5	.10	0	.10
14	.10	3.0	154	63	48	42	109	262	2.0	.10	0	.10
15	.10	4.0	127	78	45	42	104	265	3.0	.10	.10	.10
16	.10	5.8	104	90	44	42	96	278	2.5	.10	.10	.10
17	.10	12	88	90	43	68	77	278	1.8	.10	0	0
18	.10	10	78	84	44	92	75	232	1.5	.10	.10	0
19	.10	10	72	78	42	103	71	192	.50	.10	.10	0
20	.10	12	68	78	39	97	71	160	.20	.10	.10	0
21	.10	27	64	77	42	91	68	140	.20	.10	0	0
22	.20	20	60	74	40	91	63	120	.10	.20	0	0
23	.20	17	60	65	39	97	57	94	.10	.40	0	0
24	.30	16	54	63	39	110	58	75	.10	.30	0	0
25	.30	16	50	63	39	106	78	67	.10	.10	.10	0
26	.40	17	49	58	38	81	75	54	.10	.10	.20	0
27	.40	17	45	60	37	78	78	42	.10	.10	.20	0
28	.50	18	43	79	37	72	81	24	.10	.10	.70	0
29	.50	18	40	124	- - - - -	81	84	42	.10	.10	.70	0
30	.50	18	40	178	- - - - -	71	92	42	.10	.10	.80	0
31	.50	- - - - -	39	164	- - - - -	67	- - - - -	44	- - - - -	.10	.80	- - - - -
Total	4.80	251.70	1,824	2,089	1,648	1,929	2,426	4,545	245.00	4.90	5.30	3.90
Mean	.155	8.39	58.8	67.4	58.9	62.2	80.9	147	8.17	.158	.171	.130
Max	.50	27	154	178	136	110	109	278	40	.40	.80	1.2
Min	0	.50	23	36	37	28	49	24	.10	.10	0	0
Ac-ft	9.5	499	3,620	4,140	3,270	3,830	4,810	9,010	486	9.7	11	7.7

Cal yr 1966: Total 5,827.40 Mean 16.0 Max 154 Min 0 Ac-ft 11,560
Wtr yr 1967: Total 14,976.60 Mean 41.0 Max 278 Min 0 Ac-ft 29,710

Peak discharge (base, 300 cfs).--No peak above base.

Note.--No gage-height record Oct. 8 to Nov. 15.

14-0260. Umatilla River at Yoakum, Oreg.

Location.--Lat 45°40'40", long 119°02'00", in SW¼ sec.2, T.2 N., R.30 E., at left bank on downstream side of highway bridge, 0.5 mile northeast of Yoakum, 2.5 miles downstream from abandoned Furnish Reservoir, 12.0 miles downstream from Birch Creek, and at mile 37.7.

Drainage area.--1,280 sq mi, approximately.

Records available.--May 1903 to September 1967. Published as "above Furnish Reservoir, near Yoakum" October 1916 to September 1934.

Gage.--Digital water-stage recorder. Datum of gage is 768.21 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. May 5, 1903, to Sept. 30, 1916, staff gage at site 500 ft upstream at different datum. Oct. 1, 1916, to Sept. 30, 1934, graphic water-stage recorder at site 5 miles upstream at different datum. Oct. 1, 1934, to Oct. 20, 1948, graphic water-stage recorder at present site at datum 2.0 ft higher. Oct. 21, 1948, to Mar. 28, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--64 years, 663 cfs (480,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,300 cfs Dec. 13 (gage height, 6.16 ft); minimum, 26 cfs Sept. 29.

1903-67: Maximum discharge, 20,000 cfs May 30, 1906 (gage height, about 15.0 ft, site and datum then in use, from floodmarks), from rating curve extended above 6,600 cfs; minimum, 12 cfs Aug. 10-12, 1908, Aug. 4, 1910.

Remarks.--Records good. Slight regulation by Furnish Reservoir 1910-34 (capacity, 3,900 acre-ft prior to filling with silt). Flow regulated to some extent since 1927 by McKay Reservoir (see sta. no. 0230). Many diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	63	335	203	1,700	507	682	900	494	375	345	294
2	44	63	474	226	1,330	556	650	900	458	370	345	140
3	51	63	565	229	1,100	535	642	910	428	370	330	130
4	53	61	593	282	940	482	666	940	398	355	322	130
5	50	63	621	350	860	440	714	990	375	350	322	130
6	48	70	551	360	802	416	757	1,060	345	345	322	110
7	47	72	509	322	757	380	748	1,260	330	335	314	110
8	44	70	474	290	690	370	811	1,550	318	335	294	110
9	44	68	424	270	626	370	850	1,660	302	335	302	110
10	47	70	395	266	556	392	860	1,580	370	330	322	110
11	43	72	365	274	500	386	860	1,320	370	345	322	100
12	47	79	370	318	464	350	870	1,280	360	326	322	95
13	51	100	1,770	488	422	340	830	1,770	355	318	318	80
14	54	108	2,760	1,040	410	345	820	2,030	360	345	310	70
15	54	124	1,900	1,650	392	330	757	1,980	365	345	294	70
16	53	160	1,220	1,930	380	340	674	1,930	355	340	266	70
17	53	285	850	1,460	360	566	594	2,050	350	340	254	65
18	53	260	642	1,050	470	860	556	2,040	335	335	278	65
19	53	226	521	820	535	980	549	1,790	350	330	282	65
20	51	214	446	840	514	960	578	1,610	398	330	282	55
21	61	242	410	1,030	514	910	666	1,540	398	330	286	41
22	72	238	360	1,000	514	880	714	1,500	410	386	302	39
23	86	218	322	811	521	970	793	1,360	375	375	302	38
24	81	200	294	682	528	1,090	811	1,110	370	370	298	37
25	75	186	266	578	549	1,030	890	900	355	360	294	39
26	68	218	246	514	535	900	940	766	345	360	302	34
27	66	300	222	888	488	793	910	674	355	350	326	34
28	66	300	203	2,540	470	706	940	634	365	350	326	36
29	66	300	200	3,430	------	730	900	674	380	345	322	31
30	66	310	206	3,210	------	666	880	626	386	350	314	38
31	65	------	203	2,280	------	650	------	556	------	345	306	------
TOTAL	1,752	4,803	18,717	29,631	17,927	19,230	22,912	39,890	11,155	10,775	9,524	2,476
MEAN	56.5	160	604	956	640	620	764	1,287	372	348	307	82.5
MAX	86	310	2,760	3,430	1,700	1,090	940	2,050	494	386	345	294
MIN	40	61	200	203	360	330	549	556	302	318	254	31
AC-FT	3,480	9,530	37,120	58,770	35,560	38,140	45,450	79,120	22,130	21,370	18,890	4,910

CAL YR 1966: TOTAL 130,060 MEAN 356 MAX 2,760 MIN 37 AC-FT 258,000
WAT YR 1967: TOTAL 188,792 MEAN 517 MAX 3,430 MIN 31 AC-FT 374,500

Peak discharge (base, 3,600 cfs).--Dec. 13 (2400 hrs) 4,300 cfs (6.16 ft).

14-0320. Butter Creek near Pine City, Oreg.
(called North Fork Butter Creek on some maps)

Location.--Lat 45°32'40", long 119°18'40", in SW¼ sec.22, T.1 N., R.28 E., on right bank half a mile downstream from Mattlock Canyon 6 miles southeast of settlement of Pine City, 20 miles south of Hermiston, and at mile 8.4.

Drainage area.--291 sq mi.

Records available.--April to June 1928, November 1928 to June 1929, October 1929 to September 1930, January 1931 to September 1932, February to June 1933, October 1933 to September 1941, January to June 1942, October 1942 to September 1967. Prior to October 1945 monthly discharge only, published in WSP 1318.

Gage.--Water-stage recorder. Altitude of gage is 1,400 ft (by barometer). Prior to Oct. 1, 1944, at datum 1.1 ft higher and Oct. 1, 1944, to Sept. 6, 1949, at datum 1.0 ft higher.

Average discharge.--35 years (1929-30, 1931-32, 1933-41, 1942-67), 24.5 cfs (17,740 acre-ft per year).

Extremes.--Maximum discharge during year, 268 cfs Jan. 29 (gage height, 3.24 ft); no flow July 25 to Sept. 30.

1928-67: Maximum discharge, 3,800 cfs Feb. 21, 1949 (gage height, 12.4 ft, present datum, from floodmark), from rating curve extended above 440 cfs on basis of computation of peak flow over dam; no flow at times.

Remarks.--Records fair. No regulation. Several small diversions for irrigation above station. Water is diverted into headwaters of Butter Creek from Fivemile Creek, a tributary of Camas Creek in John Day River basin, for irrigation of 345 acres below station; at times 40 cfs is diverted.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.30	2.0	19	18	91	26	42	40	24	1.2		
2	.30	2.2	35	18	80	27	41	40	21	1.0		
3	.20	2.8	33	17	72	27	40	42	18	1.4		
4	.20	3.0	28	18	67	26	41	41	18	.90		
5	.20	3.2	26	18	60	25	41	45	16	.70		
6	.20	6.6	25	18	55	27	47	49	16	.50		
7	.20	3.5	24	20	50	26	48	56	14	.60		
8	.20	3.8	21	18	46	25	53	65	12	.20		
9	.20	3.8	18	18	43	25	52	72	12	.20		
10	.20	3.8	18	18	39	26	53	82	10	.20		
11	.20	4.5	22	19	36	26	59	79	9.2	.10		
12	.20	4.5	39	25	35	24	63	72	9.2	.10		
13	.30	4.8	134	27	33	25	58	71	9.2	.10		
14	.30	5.6	150	46	31	25	55	65	9.2	.10		
15	.20	6.2	91	68	29	22	50	63	6.8	.10		
16	.20	8.5	68	72	29	22	48	66	5.7	.10		
17	.20	14	57	58	29	77	46	77	5.4	.10		
18	.20	12	48	48	30	79	45	84	4.2	.10		
19	.20	10	41	42	29	67	42	83	4.2	.10		
20	.20	26	38	42	26	60	40	77	3.0	.10		
21	.30	56	37	42	29	56	38	72	3.9	.10		
22	.30	30	31	39	27	55	36	68	6.0	.10		
23	.30	22	28	31	26	59	34	63	7.2	.10		
24	.50	18	26	30	26	62	34	54	6.0	.10		
25	1.6	17	24	31	27	56	37	45	5.1	0		
26	1.6	17	22	29	28	50	40	38	4.5	0		
27	1.7	17	21	32	26	46	39	31	3.0	0		
28	1.7	15	18	102	27	43	38	29	3.6	0		
29	2.0	15	20	199		45	37	31	2.8	0		
30	2.2	18	20	165	- - - - -	41	36	28	1.6	0		
31	2.2	- - - - -	18	113	- - - - -	40	- - - - -	25	- - - - -	0		- - - - -
Total	18.80	355.8	1,200	1,441	1,126	1,240	1,333	1,753	270.8	8.30	0	0
Mean	0.61	11.9	38.7	46.5	40.2	40.0	44.4	56.5	9.03	.27	0	0
Max	2.2	56	150	199	91	79	63	84	24	1.4	0	0
Min	.20	2.0	18	17	26	22	34	25	1.6	0	0	0
Ac-ft	37	706	2,380	2,860	2,230	2,460	2,640	3,480	537	16	0	0

Cal yr 1966: Total 4,639.20 Mean 12.7 Max 150 Min 0 Ac-ft 9,200
Wtr yr 1967: Total 8,746.70 Mean 24.0 Max 199 Min 0 Ac-ft 17,350

Peak discharge (base, 200 cfs).--Jan. 29 (1900 hrs) 268 cfs (3.24 ft).

Principal diversions from Umatilla River between Yoakum and Umatilla gaging stations, Oreg.

The following canals divert water from Umatilla River between Yoakum and Umatilla:

14-0270. Furnish Canal, from right bank of Umatilla River in SW¼SW¼ sec.31, T.3 N., R.30 E., for irrigation of 6,500 acres in vicinity of Stanfield.

14-0290. Umatilla project feed canal, from right bank of Umatilla River in SW¼ sec.22, T.3 N., R.29 E., and delivers water to Cold Springs Reservoir (capacity, 52,380 acre-ft, revised) of Bureau of Reclamation.

14-0300. Allen Canal, from right bank of Western Land Canal, half a mile downstream from headgate of that canal, for irrigation of 1,100 acres west of Echo.

14-0305. Western Land Canal, from left bank of Umatilla River in NE¼ sec.21, T.3 N., R.29 E., for irrigation of 10,000 acres west of Echo and Stanfield; gage is 1 mile downstream from intake.

14-0315. Maxwell Canal, from right bank of Umatilla River in SW¼ sec.28, T.4 N., R.28 E., for irrigation of 10,400 acres near Hermiston; at times it receives water from Cold Springs Reservoir.

14-0325. West Division main canal, from left bank of Umatilla River in SW¼ sec.28, T.5 N., R.28 E., for irrigation of 7,600 acres near Irrigon and Boardman.

Several smaller canals also divert water between Yoakum and Umatilla, but no records for them were obtained.

Records available for water years 1921-65 (incomplete). Monthly discharge only for some periods, published in WSP 1318.

Diversions, in acre-feet, water year October 1966 to September 1967

Month	Furnish Canal	Umatilla project feed canal	Allen Canal	Western Land Canal	Maxwell Canal	West Division main canal
October	0	0	501	982	2,060	4,460
November	0	6,940	0	118	377	115
December	0	12,740	0	0	0	0
January	0	12,300	0	0	0	0
February	1,500	4,740	0	954	0	0
March	3,060	13,340	-	8,100	1,260	3,140
April	5,000	12,220	-	12,520	4,390	8,940
May	6,540	13,630	871	13,530	4,880	9,980
June	6,120	2,170	640	11,720	3,070	9,910
July	7,620	0	746	11,600	2,550	9,580
August	5,870	0	803	11,020	2,430	10,010
September	2,830	0	895	1,160	1,280	6,970
Water year 1966-67	38,550	78,080	-	71,710	22,300	63,100

Note.--No gage-height record for months of little or no flow and short periods at other times.

14-0335. Umatilla River near Umatilla, Oreg.

Location.--Lat 45°54'11", long 119°19'33", in SW¼NW¼ sec.21, T.5 N., R.28 E., on left bank 1.6 miles (revised) downstream from West Division main canal of Umatilla project, 1.2 miles southeast of Umatilla, and at mile 2.1.

Drainage area.--2,290 sq mi, approximately.

Records available.--October 1903 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 330.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 21, 1903, to Jan. 25, 1931, staff gage, and Jan. 26, 1931, to Apr. 26, 1967, graphic water-stage recorder, at same site and datum.

Average discharge.--40 years (1927-67), 430 cfs (311,300 acre-ft per year). Years prior to 1927 not included in computation of average discharge owing to increased regulation and diversion since 1927.

Extremes.--Maximum discharge during year, 4,390 cfs Dec. 14 (gage height, 5.70 ft); minimum, 0.55 cfs Sept. 29, 30.

1903-67: Maximum discharge, 19,800 cfs Jan. 30, 1965 (gage height, 10.75 ft); no flow at times.

Remarks.--Records good. Some regulation since 1927 by McKay Reservoir (see sta. no. 0230). Many diversions above station for irrigation of lands above and below station; Brownell Canal diverts below station. Diversions since 1908 to Cold Springs Reservoir, an off-channel reservoir (capacity, 52,380 acre-ft). Records of daily water temperatures and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	42	148	151	1,640	278	137	397	44	12	5.5	6.2
2	1.0	129	180	154	1,290	296	109	341	21	7.9	5.8	6.0
3	1.8	140	389	165	1,040	302	95	334	10	7.2	5.8	5.8
4	2.4	135	417	178	880	201	61	341	7.9	16	6.0	5.8
5	2.2	135	466	255	830	165	59	397	7.6	12	6.2	5.8
6	1.9	140	431	320	820	148	112	404	7.2	8.6	6.2	5.8
7	1.3	144	375	314	783	124	118	508	9.0	6.5	26	5.8
8	1.2	102	340	266	738	100	115	774	7.2	6.5	7.6	5.8
9	1.2	95	304	235	702	95	250	900	6.8	6.2	6.0	4.8
10	1.2	90	270	220	648	91	230	932	7.6	6.5	5.2	2.6
11	1.3	88	245	215	594	93	225	792	7.2	6.2	5.5	2.8
12	1.1	88	220	225	558	91	245	630	7.2	6.2	5.2	2.2
13	1.0	90	389	320	508	93	225	976	8.6	5.8	5.2	2.2
14	.90	95	3,630	666	484	84	230	1,220	9.3	6.0	5.2	5.8
15	.90	100	2,070	1,300	432	77	154	1,260	7.6	6.5	5.2	5.8
16	.90	100	1,270	1,650	453	130	121	1,140	8.7	5.8	5.5	5.8
17	.90	105	932	1,430	418	93	109	1,180	8.6	5.0	5.2	5.8
18	1.1	148	738	1,080	439	296	59	1,250	6.8	4.2	5.5	5.8
19	2.2	129	585	880	567	516	42	1,090	6.8	5.0	5.8	5.8
20	1.2	123	484	783	576	524	11	870	6.8	3.2	5.2	5.8
21	1.8	114	439	921	612	411	44	783	7.6	3.0	4.8	5.8
22	3.3	108	390	987	630	278	121	756	6.2	3.2	5.5	5.8
23	5.8	105	341	860	594	286	178	639	6.0	3.2	5.5	5.8
24	27	105	296	738	524	621	278	484	5.8	4.0	5.2	5.8
25	39	105	266	639	508	648	272	314	5.0	3.8	5.8	5.8
26	39	105	240	558	500	500	334	174	5.0	3.8	6.2	5.8
27	36	105	215	585	432	390	460	95	5.2	3.4	5.8	5.8
28	32	129	174	1,540	290	284	468	63	7.9	4.5	5.8	5.8
29	33	132	162	3,280	------	210	376	33	7.9	5.8	7.2	3.0
30	43	135	158	3,390	------	151	390	56	7.9	5.5	8.6	.55
31	47	------	158	2,340	------	127	------	48	------	5.8	6.2	------
TOTAL	333.80	3,361	16,722	26,645	18,490	7,703	5,628	19,181	270.4	189.3	200.4	152.15
MEAN	10.8	112	539	860	660	248	188	619	9.01	6.11	6.46	5.07
MAX	47	148	3,630	3,390	1,640	648	468	1,260	44	16	26	6.2
MIN	.90	42	148	151	290	77	11	33	5.0	3.0	4.8	.55
AC-FT	662	6,670	33,170	52,850	36,670	15,280	11,160	38,040	536	375	397	302

CAL YR 1966: TOTAL 58,503.60 MEAN 160 MAX 3,630 MIN .90 AC-FT 116,000
WAT YR 1967: TOTAL 98,876.05 MEAN 271 MAX 3,630 MIN .55 AC-FT 196,100

Peak discharge (base, 3,100 cfs).--Dec. 14 (1100 hrs) 4,390 cfs (5.70 ft); Jan. 30 (1100 hrs) 3,580 cfs (5.35 ft).

14-0345. Willow Creek at Heppner, Oreg.

Location (revised).--Lat 45°21'05", long 119°33'00", in SE¼NW¼ sec.35, T.2 S., R.26 E., on right bank at Heppner, 100 ft upstream from Court Street bridge, 800 ft southeast of Morrow County courthouse, 0.3 mile downstream from Balm Fork, and at mile 52.2

Drainage area.--87 sq mi, approximately.

Records available.--May 1951 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 1,952.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 13, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--16 years, 19.3 cfs (13,970 acre-ft per year).

Extremes.--Maximum discharge during year, 86 cfs Jan. 29 (gage height, 2.43 ft); minimum daily, 0.02 cfs Oct. 16-19.

1951-67: Maximum discharge, 812 cfs May 10, 1957 (gage height, 6.15 ft), from rating curve extended above 230 cfs by logarithmic plotting; no flow at times.

Maximum discharge known, about 36,000 cfs June 14, 1903, by slope-area measurement. Discharge for flood of Feb. 22, 1949, was 1,700 cfs, by slope-area measurement.

Remarks.--Records good. Many diversions for irrigation of about 500 acres above station. Part of flow of Ditch Creek (John Day River basin) is diverted to Willow Creek above station. Records of daily water temperatures and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.04	.58	17	11	56	14	23	54	28	2.7	.13	0.06
2	.07	.58	24	11	48	15	23	65	24	2.3	.12	.06
3	.04	.58	23	11	42	15	24	61	21	2.0	.10	.07
4	.04	.58	20	12	39	12	23	58	19	1.4	.09	.06
5	.04	.69	20	17	36	14	32	56	17	1.4	.08	.06
6	.04	1.2	16	17	32	14	41	52	14	1.3	.09	.06
7	.04	1.5	15	17	30	14	51	53	13	1.3	.08	.10
8	.04	1.4	13	16	28	14	52	58	11	1.4	.10	.03
9	.04	1.4	11	14	26	13	48	68	9.8	.91	.08	.03
10	.04	1.8	17	14	24	13	47	73	8.6	.81	.10	.03
11	.04	2.0	28	22	23	12	46	64	8.3	.76	.08	.08
12	.04	3.0	32	27	22	11	43	60	9.8	.75	.08	.08
13	.07	3.0	45	29	21	14	40	59	12	.55	.08	.13
14	.04	2.8	48	36	19	12	38	58	9.5	.44	.08	.13
15	.04	7.5	40	38	18	13	35	58	7.7	.35	.08	.13
16	.02	14	32	38	18	14	32	59	7.1	.42	.08	.08
17	.02	11	27	36	18	22	33	72	4.7	.19	.07	.08
18	.02	7.9	27	32	19	24	32	84	4.9	.24	.06	.13
19	.02	9.1	23	28	16	25	30	81	4.4	.27	.06	.08
20	.04	19	21	29	13	26	28	76	4.4	.29	.06	.08
21	.17	17	19	29	16	26	26	73	5.5	.29	.05	.08
22	.48	13	15	23	16	26	24	70	7.1	.30	.06	.08
23	.81	11	14	20	15	27	19	64	6.3	.24	.07	.08
24	.81	9.9	14	18	15	28	20	51	6.0	.21	.06	.08
25	.69	9.5	12	20	15	28	26	43	5.2	.17	.06	.08
26	.48	12	11	19	15	26	31	37	4.9	.17	.06	.08
27	.39	10	10	32	15	24	35	32	4.4	.18	.07	.08
28	.39	9.9	9.9	64	14	23	38	33	4.0	.14	.07	.08
29	.39	12	12	79	- - - - -	24	40	37	3.4	.13	.07	.08
30	.39	12	12	78	- - - - -	22	44	32	2.9	.12	.07	.08
31	.58	- - - - -	12	66	- - - - -	22	- - - - -	31	- - - - -	.12	.07	- - - - -
Total	6.36	205.91	639.9	903	669	587	1,024	1,772	287.9	21.85	2.41	2.36
Mean	.21	6.86	20.6	29.1	23.9	18.9	34.1	57.2	9.60	.70	.078	.079
Max	.81	19	48	79	56	28	52	84	28	2.7	.13	.13
Min	.02	.58	9.9	11	13	11	19	31	2.9	.12	.05	.03
Ac-ft	13	408	1,270	1,790	1,330	1,160	2,030	3,510	571	43	4.8	4.7

Cal yr 1966: Total 2,452.57 Mean 6.72 Max 48 Min 0 Ac-ft 4,860
Wtr yr 1967: Total 6,121.69 Mean 16.8 Max 84 Min .02 Ac-ft 12,140

Peak discharge (base 170 cfs).--No peak above base.

14-0348. Rhea Creek near Heppner, Oreg.

Location.--Lat 45°15'30", long 119°38'10", in SW¼ sec.31, T.3 S., R.26 E., on right bank 1.5 miles downstream from Sanford Canyon, 8 miles southwest of Heppner, and at mile 25.0.

Drainage area.--120 sq mi, approximately.

Records available.--August 1960 to September 1967.

Average discharge.--7 years, 18.4 cfs (13,320 acre-ft per year).

Gage.--Digital water-stage recorder. Altitude of gage is 2,250 ft (from topographic map). Prior to Apr. 15, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 239 cfs Nov. 20 (gage height, 3.87 ft); no flow many days in August and September.

1960-67: Maximum discharge, 1,260 cfs Jan. 30, 1965 (gage height, 6.83 ft), from rating curve extended above 150 cfs on basis of slope-area measurement at 1,200 cfs; maximum gage height, 7.41 ft Dec. 22, 1964; no flow at times.

Remarks.--Records good. No regulation. Many diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.4	2.3	15	12	67	15	28	101	17	2.9	.05	0
2	2.3	2.5	22	11	57	15	31	122	15	2.5	.01	0
3	2.8	2.5	25	12	50	15	44	99	14	2.1	0	0
4	2.3	2.5	24	18	44	12	55	82	12	2.1	0	0
5	1.9	2.9	25	25	37	13	62	70	12	1.7	0	0
6	1.8	3.8	24	21	33	14	68	60	11	1.9	0	0
7	1.8	3.8	22	19	29	13	70	53	10	1.7	0	0
8	1.8	3.4	19	18	26	13	62	48	9.0	1.5	0	0
9	1.8	3.5	17	17	25	14	55	46	8.2	1.7	0	.05
10	1.8	4.6	27	19	21	14	53	52	7.8	.71	0	.07
11	1.8	4.5	49	27	20	14	50	49	7.4	1.5	0	.23
12	1.8	6.3	55	26	19	12	45	54	7.4	1.5	0	.59
13	2.0	4.6	93	28	17	14	43	62	9.4	1.2	0	.42
14	2.0	4.4	72	55	15	12	39	61	7.4	.92	0	.18
15	2.0	7.4	48	67	15	12	36	58	6.2	.59	0	.42
16	1.8	12	36	55	18	16	33	54	5.8	.80	0	.23
17	2.0	7.7	29	41	19	25	32	53	5.0	.59	0	.50
18	2.0	5.8	24	32	20	28	31	53	3.7	.18	0	.29
19	2.0	5.8	21	28	17	28	28	50	3.2	.10	0	.38
20	2.0	93	20	30	14	28	26	46	3.7	.10	0	.14
21	2.3	39	19	29	17	28	25	43	8.2	.29	0	.10
22	2.8	26	15	22	16	28	24	40	8.6	.50	0	.10
23	2.5	20	14	21	16	27	22	36	6.2	.50	0	.10
24	2.5	16	13	19	16	25	28	33	5.0	.50	0	.14
25	2.3	14	13	18	16	23	33	29	4.3	.23	0	.18
26	2.3	14	12	20	15	23	44	25	4.0	.07	0	.18
27	2.1	12	11	36	15	21	51	21	3.7	.05	0	.18
28	2.1	11	11	118	15	22	59	20	3.7	.03	0	.23
29	2.1	12	13	157	------	23	56	26	3.4	.02	0	.29
30	2.2	11	12	108	------	22	69	19	3.2	.01	0	.50
31	2.3	------	12	81	------	23	------	18	------	.02	0	------
TOTAL	64.6	358.3	812	1,190	689	592	1,302	1,583	225.5	28.51	0.06	5.50
MEAN	2.08	11.9	26.2	38.4	24.6	19.1	43.4	51.1	7.52	.92	.002	.18
MAX	2.8	93	93	157	67	28	70	122	17	2.9	.05	.59
MIN	1.4	2.3	11	11	14	12	22	18	3.2	.01	0	0
AC-FT	128	711	1,610	2,360	1,370	1,170	2,580	3,140	447	57	.1	11

CAL YR 1966: TOTAL 20,150.90 MEAN 55.2 MAX 93 MIN 0 AC-FT 39,970
WAT YR 1967: TOTAL 6,850.47 MEAN 18.8 MAX 157 MIN 0 AC-FT 13,590

Peak discharge (base, 230 cfs).--Nov. 20 (0730 hrs) 239 cfs (3.87 ft).

14-0360. Willow Creek near Arlington, Oreg.

Location.--Lat 45°45'12", long 120°00'35", in NE¼SW¼ sec.12, T.3 N., R.22 E., on right bank at bridge on discontinued highway, 3.8 miles downstream from Eightmile Canyon, 10 miles east of Arlington, and at mile 3.7.

Drainage area.--850 sq mi, approximately.

Records available.--March to July 1906, August 1960 to September 1967. Records for March to August 1905 at site just upstream from Eightmile Canyon not equivalent owing to diversions and inflow.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 291.26 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 1 to July 21, 1906, staff gage at site 2.6 miles upstream at different datum. Aug. 24, 1960 to July 1, 1964, graphic water-stage recorder at site 430 ft downstream at same datum.

Average discharge.--7 years, 28.8 cfs (20,850 acre-ft per year).

Extremes.--Maximum discharge during year, 410 cfs June 1 (gage height, 5.00 ft); no flow at times.

1906, 1960-67: Maximum discharge, 14,700 cfs Dec. 22, 1964 (gage height, 11.05 ft, from floodmark), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records fair. No regulation. Many diversions for irrigation above station. Records of daily water temperature and suspended sediment loads for the water year 1967 are published in Part 2 of this report. Records given herein do not include water diverted for irrigation in canal below gage, in which canal the following discharge measurements, in cubic feet per second, were made in the 1967 water year.

Dec. 6	4.60
June 2	1.87
June 7	0.81

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	3.4	23	93	3.7	19	122	43	.30	0	0
2	0	.13	2.3	22	78	4.5	27	180	99	.46	0	0
3	0	.05	4.5	21	56	4.5	28	195	30	.88	.01	0
4	0	0	11	23	42	3.4	35	167	19	1.0	.04	0
5	0	.03	24	29	46	3.4	41	144	9.6	1.8	0	0
6	0	.47	22	46	38	4.1	54	126	6.8	.63	0	0
7	0	.31	23	42	28	3.4	68	114	5.8	.56	0	0
8	0	.47	23	39	30	3.1	79	105	6.8	.61	0	0
9	0	.86	19	36	19	.86	87	99	7.4	.56	0	0
10	0	.31	21	29	16	1.6	79	107	5.8	.56	0	0
11	0	.47	33	28	6.7	1.6	79	116	4.4	.44	0	0
12	0	.74	67	28	6.2	1.8	74	103	2.6	.25	.63	0
13	0	.86	85	30	6.2	2.8	63	103	2.6	.16	.19	0
14	0	2.1	122	7.9	7.3	2.1	57	108	3.2	.06	0	0
15	0	2.8	98	24	6.2	2.1	53	90	2.6	.20	0	0
16	0	2.8	75	66	6.7	1.8	56	84	.51	.53	0	0
17	0	1.8	56	45	6.2	2.8	56	82	0	.29	0	0
18	0	1.4	45	17	7.3	2.6	54	85	0	.11	0	0
19	0	1.8	41	4.9	8.5	7.3	54	75	.41	.32	0	0
20	0	4.1	34	6.7	7.3	12	48	80	.41	.31	0	0
21	0	48	36	9.4	6.2	5.8	45	75	.27	.15	0	0
22	0	39	36	6.7	6.2	9.1	45	70	.46	.08	0	0
23	0	22	33	2.8	6.2	17	48	62	.63	.17	0	0
24	0	14	32	3.7	6.7	18	46	49	.39	.11	0	0
25	0	11	29	2.3	7.3	15	49	42	.45	.01	0	0
26	0	8.5	29	2.6	4.9	14	57	42	.50	0	0	0
27	0	11	28	4.9	5.4	16	73	42	.38	.08	0	0
28	0	9.1	26	28	4.5	15	85	38	.33	.09	0	0
29	0	7.3	27	129	------	12	89	38	.75	0	0	0
30	0	3.1	28	166	------	13	92	40	.68	0	0	0
31	0	------	27	124	------	16	------	30	------	0	0	------
TOTAL	0	194.50	1,140.2	1,046.9	562.0	220.36	1,740	2,813	254.77	10.72	0.87	0
MEAN	0	6.48	36.8	33.8	20.1	7.11	58.0	90.7	8.49	.35	.028	0
MAX	0	48	122	166	93	18	92	195	99	1.8	.63	0
MIN	0	0	2.3	2.3	4.5	.86	19	30	0	0	0	0
AC-FT	0	386	2,260	2,080	1,110	437	3,450	5,580	505	21	1.7	0

CAL YR 1966: TOTAL 2,313.80 MEAN 6.34 MAX 122 MIN 0 AC-FT 4,590
WAT YR 1967: TOTAL 7,983.32 MEAN 21.9 MAX 195 MIN 0 AC-FT 15,830

Peak discharge (base, 400 cfs).--June 1 (2300 hrs) 410 cfs (5.00 ft).

14-0375. Strawberry Creek above Slide Creek, near Prairie City, Oreg.

Location.--Lat 44°20'30", long 118°39'20", in SE¼NW¼ sec.20, T.14 S., R.34 E., on left bank 100 ft upstream from Slide Creek, 8.5 miles south of Prairie City, and at mile 9.0.

Drainage area.--7.00 sq mi.

Records available.--October 1930 to September 1967. Prior to October 1944, published as "above South Fork, near Prairie City."

Gage.--Digital water-stage recorder and log control. Datum of gage is 4,909.57 ft above mean sea level, datum of 1929. Prior to Aug. 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--37 years, 12.7 cfs (9,190 acre-ft per year).

Extremes.--Maximum discharge during year, 110 cfs June 22 (gage height, 2.16 ft); minimum, 1.4 cfs Nov. 8.

1930-67: Maximum discharge, 172 cfs June 8, 1948 (gage height, 2.23 ft); maximum gage height, 3.23 ft May 24, 1956 (backwater from logs); minimum discharge, 1.0 cfs Mar. 20, 1955.

Remarks.--Records good except those for period of no gage-height record in January, which are fair. Some natural regulation by Strawberry Lake. No diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	2.9	1.9	3.8	3.8	4.7	2.5	2.9	3.3	43	60	12	4.6
2	2.9	1.7	3.8	4.0	4.3	2.5	3.1	3.3	41	56	11	4.6
3	2.9	1.6	3.8	4.0	4.0	2.5	2.9	3.3	41	54	10	4.6
4	2.9	1.6	3.8	4.0	3.8	2.3	2.9	3.6	42	51	10	4.6
5	2.9	1.7	3.7	4.2	3.6	2.2	2.9	4.0	43	48	10	4.6
6	2.9	1.7	3.6	4.0	3.4	2.3	2.9	4.6	45	44	9.6	4.6
7	2.9	1.7	3.6	4.0	3.3	2.3	3.1	6.7	52	41	9.2	4.6
8	2.9	1.6	3.5	4.0	3.2	2.3	3.1	11	56	38	9.2	4.6
9	2.9	1.6	3.3	4.0	3.1	2.4	3.1	16	53	35	8.8	4.3
10	2.9	1.7	3.3	4.0	3.1	2.5	3.3	20	46	33	8.8	4.3
11	2.9	1.7	3.6	4.2	3.0	2.4	3.3	18	46	30	8.4	4.6
12	2.7	1.7	3.8	4.2	2.9	2.4	3.3	15	45	27	7.9	4.0
13	2.7	2.5	4.9	4.4	2.9	2.4	3.6	14	43	25	7.1	4.0
14	2.7	2.3	4.3	4.6	2.9	2.3	3.6	14	42	24	6.7	4.0
15	2.7	2.3	4.3	5.0	2.9	2.3	3.6	15	45	22	6.3	3.8
16	2.7	3.1	4.3	5.0	2.9	2.6	3.6	19	52	21	6.4	3.8
17	2.7	2.3	4.0	4.8	2.8	2.7	3.6	27	55	20	6.3	3.8
18	2.5	2.3	4.0	4.6	2.7	2.7	3.6	31	74	20	6.0	3.8
19	2.3	2.5	4.3	4.6	2.6	2.7	3.6	34	80	19	5.7	3.8
20	2.4	4.3	4.0	5.0	2.4	2.9	3.3	36	76	18	5.6	3.8
21	2.3	3.3	3.8	4.8	2.5	2.9	3.3	40	94	18	5.3	3.4
22	2.4	3.1	4.0	4.4	2.5	3.1	3.3	44	100	17	5.2	3.3
23	2.4	2.9	3.8	4.0	2.5	3.1	3.3	43	82	17	5.2	3.3
24	2.4	2.9	3.8	4.0	2.5	3.1	3.6	46	77	16	5.2	3.3
25	2.3	2.9	3.8	4.2	2.5	3.1	3.6	46	73	15	4.9	3.2
26	2.3	3.1	3.8	4.4	2.5	3.1	3.3	44	73	15	4.6	3.2
27	2.1	3.1	3.8	5.0	2.5	3.1	3.3	43	73	14	4.6	3.1
28	1.9	3.3	3.8	6.5	2.5	3.1	3.3	51	72	14	4.6	3.1
29	1.9	3.3	3.8	6.5		2.9	3.3	52	67	13	4.6	3.1
30	1.9	3.3	3.8	5.6	- - - - -	2.9	3.3	52	63	12	5.2	3.1
31	1.9	- - - - -	3.8	5.2	- - - - -	2.9	- - - - -	51	- - - - -	12	4.6	- - - - -
Total	79.1	73.0	119.7	141.0	84.5	82.5	98.9	810.8	1,794	849	219.0	116.9
Mean	2.55	2.43	3.86	4.55	3.02	2.66	3.30	26.2	59.8	27.4	7.06	3.90
Max	2.9	4.3	4.9	6.5	4.7	3.1	3.6	52	100	60	12	4.6
Min	1.9	1.6	3.3	3.8	2.4	2.2	2.9	3.3	41	12	4.6	3.1
Cfsm	.36	.35	.55	.65	.43	.38	.47	3.74	8.54	3.91	1.01	.56
In.	.42	.39	.64	.75	.45	.44	.53	4.31	9.53	4.51	1.16	.62
Ac-ft	157	145	237	280	168	164	196	1,610	3,560	1,680	434	232

Cal yr 1966: Total 3,055.0 Mean 8.37 Max 40 Min 1.6 Cfsm 1.20 In. 16.24 Ac-ft 6,060
Wtr yr 1967: Total 4,468.4 Mean 12.2 Max 100 Min 1.6 Cfsm 1.74 In. 23.75 Ac-ft 8,860

Note.--No gage-height record Dec. 30 to Jan. 29.

14-0385. John Day River at Prairie City, Oreg.

Location.--Lat 44°27'15", long 118°43'00", in SE¼NE¼ sec.10, T.13 S., R.33 E., on right bank 600 ft upstream from outlet of Prairie power canal, 0.3 mile downstream from Dixie Creek, 0.8 mile southwest of Prairie City, and at mile 262.0.

Drainage area.--231 sq mi.

Records available.--October 1916 to September 1917 (gage heights only), March 1925 to September 1967. Monthly discharge only March 1925 published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 3,494.59 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 30, 1926, staff gage at site 600 ft downstream, just below outlet of Prairie power canal, at different datum. Mar. 30, 1926, to Aug. 23, 1943, staff gage at various sites and datums just above outlet of Prairie power canal. Aug. 24, 1943, to Sept. 22, 1965, graphic water-stage recorder at datum 2.07 ft higher. Sept. 23, 1965, to July 27, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--28 years (1925-53), 113 cfs, including flow of Prairie power canal (81,810 acre-ft per year); 14 years (1953-67), 117 cfs, river only (84,700 acre-ft per year).

Extremes.--Maximum discharge during year, 560 cfs June 21 (gage height, 4.55 ft); minimum, 14 cfs Aug. 19, 20.
1925-67: Maximum discharge, 2,400 cfs Dec. 22, 1964 (gage height, 6.00 ft), from rating curve extended above 1,400 cfs; minimum, 2 cfs Dec. 8, 21, 22, 1932, Aug. 10, 1934.

Remarks.--Records good except those for periods of backwater from construction of diversion dam in November to January and September, which are fair. No regulation. Several diversions upstream including Prairie power canal (not used for power since February 1952) which diverts above station in SE¼ sec.7, T.13 S., R.34 E., for irrigation above and below station. Records of suspended sediment loads for the water year 1967 published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	62	83	74	164	103	112	107	259	110	36	22
2	47	60	83	73	149	107	110	105	205	105	34	22
3	48	62	95	73	141	102	108	105	185	102	36	25
4	53	60	85	76	133	96	107	108	195	93	34	23
5	51	63	118	74	125	100	108	112	200	93	31	22
6	58	74	91	71	118	102	107	118	228	85	28	29
7	60	66	85	73	116	98	107	149	218	74	24	31
8	56	64	77	73	112	100	112	195	200	71	23	31
9	59	63	70	73	110	102	114	262	202	71	24	25
10	56	66	73	73	108	108	120	308	193	64	22	29
11	55	70	77	73	103	107	131	253	193	66	24	51
12	60	80	114	74	103	98	127	212	198	62	26	58
13	64	74	276	80	103	103	127	185	188	53	22	55
14	66	73	173	95	100	98	131	173	169	51	21	56
15	66	69	125	112	98	102	125	178	162	48	20	53
16	64	87	108	105	100	220	123	220	160	53	19	38
17	66	70	100	91	108	198	121	318	181	56	17	35
18	64	66	93	83	107	158	120	396	210	41	16	28
19	63	63	88	88	96	149	113	358	220	41	15	19
20	64	87	100	102	87	145	112	326	234	44	17	20
21	70	77	100	102	96	143	110	329	440	42	17	18
22	71	74	91	90	95	141	107	376	326	40	17	16
23	71	69	87	71	96	143	108	392	264	41	17	21
24	69	64	85	79	98	143	118	350	225	41	17	27
25	70	66	87	83	100	137	118	308	200	35	18	29
26	67	67	83	83	96	131	114	256	174	29	18	23
27	70	64	74	139	96	127	112	223	160	26	20	23
28	66	71	77	343	100	127	110	223	151	29	23	21
29	64	73	82	347	------	125	108	259	137	32	25	26
30	64	71	77	232	------	120	110	262	129	33	33	30
31	63	------	77	193	------	118	------	250	------	34	26	------
TOTAL	1,905	2,075	3,034	3,398	3,058	3,851	3,450	7,416	6,206	1,765	722	906
MEAN	61.5	69.2	97.9	110	109	124	115	239	207	56.9	23.3	30.2
MAX	71	87	276	347	164	220	131	396	440	110	36	58
MIN	40	60	70	71	87	96	107	105	129	26	15	16
AC-FT	3,780	4,120	6,020	6,740	6,070	7,640	6,840	14,710	12,310	3,500	1,430	1,800

CAL YR 1966: TOTAL 26,631 MEAN 73.0 MAX 276 MIN 17 AC-FT 52,820
WAT YR 1967: TOTAL 37,786 MEAN 104 MAX 440 MIN 15 AC-FT 74,950

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-28	1030	4.13	392	5-18	0830	4.21	424
3-16	1530	4.26	444	6-21	1400	4.55	560

Note.--Backwater from construction of diversion dam Oct. 24 to Jan. 27, Aug. 20 to Sept. 30.

14-0405. John Day River at Picture Gorge, near Dayville, Oreg.

Location.--Lat 44°31'15", long 119°37'30", in SW¼ sec.17, T.12 S., R.26 E., on right bank 0.7 mile upstream from Rock Creek, 5.5 miles northwest of Dayville, and at mile 205.1.

Drainage area.--1,680 sq mi, approximately.

Records available.--April 1926 to September 1967. Monthly discharge only April 1926, published in WSP 1318.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 2,231.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 11, 1926, staff gage and Oct. 11, 1926, to Sept. 30, 1930, graphic water-stage recorder, at same site at datum 0.50 ft higher. Oct. 1, 1930, to July 22, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--41 years, 459 cfs (332,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,770 cfs Dec. 13 (gage height, 7.60 ft); minimum, 6.3 cfs Sept. 1.

1926-67: Maximum discharge, 8,170 cfs Dec. 22, 1964 (gage height, 14.97 ft); minimum, 1.0 cfs for several days in August and September 1930, Aug. 8, 9, 1936, Sept. 9, 1966.

Remarks.--Records excellent except those for period of no gage-height record, which are fair. Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	143	335	318	1,150	500	713	673	1,110	275	32	8.6
2	24	143	421	310	990	536	697	651	1,000	228	30	7.0
3	34	143	403	302	875	511	697	651	880	195	30	7.9
4	35	147	385	305	809	458	697	673	870	146	28	8.4
5	45	149	406	318	761	458	709	725	870	118	28	13
6	53	156	430	298	681	469	713	848	885	107	26	20
7	54	164	368	295	665	466	733	1,040	848	91	26	21
8	60	163	332	282	623	458	765	1,330	801	75	26	18
9	79	162	296	275	612	476	801	1,710	773	65	24	19
10	91	165	290	292	595	511	821	2,430	773	60	24	20
11	95	176	290	292	556	522	830	2,260	737	55	22	20
12	96	210	308	292	542	462	834	1,990	721	50	15	24
13	104	224	1,600	305	542	494	809	1,780	709	46	12	26
14	117	212	1,700	395	525	449	830	1,610	665	42	11	28
15	122	212	1,030	434	497	443	785	1,560	626	38	10	23
16	117	218	773	534	494	490	733	1,670	609	38	12	25
17	126	231	654	428	497	1,120	705	1,960	592	36	11	24
18	132	217	581	359	518	910	685	2,340	651	34	10	24
19	139	206	535	371	483	817	648	2,360	644	36	11	23
20	137	233	511	395	407	785	620	2,200	721	34	11	22
21	135	308	483	443	437	830	584	2,150	1,040	32	9.9	23
22	147	292	428	431	440	834	560	2,240	1,230	30	9.9	20
23	153	274	392	328	449	843	560	2,220	980	28	9.2	16
24	153	253	377	312	455	848	673	1,960	777	26	8.1	9.9
25	150	240	386	356	472	801	709	1,680	669	24	6.8	18
26	150	240	374	359	452	769	745	1,420	584	24	8.4	19
27	147	234	341	386	446	737	729	1,240	516	24	8.1	20
28	146	234	312	1,440	476	737	713	1,160	466	26	8.1	18
29	146	340	347	2,540	------	765	671	1,220	395	28	9.7	12
30	146	325	338	1,940	------	713	662	1,180	332	32	11	12
31	146	------	320	1,440	------	709	------	1,120	------	32	11	------
TOTAL	3,303	6,414	15,746	16,775	16,449	19,921	21,431	48,051	22,474	2,075	499.2	549.8
MEAN	107	214	508	541	587	643	714	1,550	749	66.9	16.1	18.3
MAX	153	340	1,700	2,540	1,150	1,120	834	2,430	1,230	275	32	28
MIN	24	143	290	275	407	443	560	651	332	24	6.8	7.0
AC-FT	6,550	12,720	31,230	33,270	32,630	39,510	42,510	95,310	44,580	4,120	990	1,090

CAL YR 1966: TOTAL 88,998.5 MEAN 244 MAX 1,700 MIN 1.5 AC-FT 176,500
WAT YR 1967: TOTAL 173,688.0 MEAN 476 MAX 2,540 MIN 6.8 AC-FT 344,500

Peak discharge (base, 1,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-13	2200	7.60	2,770	5-10	1930	7.24	2,520
1-29	2200	7.49	2,690	6-21	2330	5.73	1,540
3-17	0430	5.40	1,370				

Note.--No gage-height record July 9 to Aug. 9.

14-0420. Camas Creek near Lehman, Oreg.

Location.--Lat 45°10', long 118°44', in SW¼ sec.33, T.4 S., R.33 E., on left bank 2.1 miles downstream from Bowman Creek, 3.5 miles northwest of Lehman, and at mile 25.5.

Drainage area.--61 sq mi, approximately.

Records available.--October 1950 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 3,969.53 ft above mean sea level (levels by State Highway Department). Prior to Aug. 14, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--17 years, 44.3 cfs (32,070 acre-ft per year).

Extremes.--Maximum discharge during year, 285 cfs Jan. 29 (gage height, 2.10 ft); minimum, 0.56 cfs Aug. 29, 30, Sept. 20.

1950-67: Maximum discharge, 1,880 cfs Dec. 21, 1955 (gage height, 4.56 ft), from rating curve extended above 900 cfs by logarithmic plotting; minimum, 0.23 cfs Aug. 24, 1966.

Remarks.--Records good. No regulation. A few small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.2	1.8	46	16	98	31	73	84	39	6.8	1.8	.70
2	1.6	1.8	45	15	82	31	68	87	34	5.7	1.5	.67
3	1.7	1.8	45	15	73	29	73	92	31	6.0	1.2	.70
4	1.6	1.7	41	15	68	38	82	97	28	5.7	1.1	.74
5	1.5	2.0	44	13	64	38	97	102	27	5.1	.96	.70
6	1.4	3.3	36	13	60	38	98	109	26	4.8	.96	.83
7	1.4	2.8	32	12	54	28	111	126	23	4.5	.96	.83
8	1.4	2.4	28	11	50	28	126	143	22	4.5	.96	.74
9	1.4	3.3	26	11	43	29	126	164	20	4.2	1.1	.71
10	1.4	5.0	25	12	39	29	124	172	19	4.0	1.1	.65
11	1.4	5.3	21	12	36	28	126	162	17	4.0	1.1	1.6
12	1.8	8.4	26	13	35	24	115	185	22	3.7	.96	2.0
13	2.4	6.7	141	20	33	24	113	218	19	3.4	.84	1.2
14	2.0	6.7	137	45	30	24	111	195	16	3.2	1.2	1.1
15	2.0	15	87	73	28	25	97	168	14	3.0	.75	.96
16	1.8	39	68	92	28	57	85	162	12	3.2	.73	.96
17	1.8	21	55	78	31	93	79	170	12	3.7	.84	.84
18	1.8	16	47	64	32	107	76	166	11	3.2	.79	.84
19	1.7	13	44	58	30	98	71	145	10	3.0	.78	1.2
20	2.0	30	43	65	24	98	67	130	10	2.8	.75	.56
21	2.4	33	38	59	24	111	63	122	25	2.8	.73	.65
22	3.0	26	33	47	24	130	60	115	33	2.6	.74	.65
23	3.6	20	32	36	24	192	60	102	23	2.4	.74	.65
24	3.0	17	28	36	25	168	76	84	18	2.6	.74	.65
25	2.2	17	26	38	25	130	87	71	15	2.2	.74	.65
26	1.8	17	23	40	24	107	95	60	12	2.2	.77	.65
27	2.0	15	19	46	26	94	97	52	11	2.2	.86	.65
28	1.8	20	20	125	28	90	90	48	10	2.2	1.2	.65
29	1.8	30	20	218	------	87	82	47	8.3	2.2	.70	.65
30	2.0	33	18	192	------	79	82	45	7.7	2.0	.62	.96
31	1.8	------	17	128	------	76	------	45	------	2.0	.74	------
TOTAL	58.7	415.0	1,311	1,618	1,138	2,161	2,710	3,668	575.0	109.9	28.96	25.34
MEAN	1.89	13.8	42.3	52.2	40.6	69.7	90.3	118	19.2	3.55	.93	.84
MAX	3.6	39	141	218	98	192	126	218	39	6.8	1.8	2.0
MIN	1.2	1.7	17	11	24	24	60	45	7.7	2.0	.62	.56
AC-FT	116	823	2,600	3,210	2,260	4,290	5,380	7,280	1,140	218	57	50

CAL YR 1966: TOTAL 8,799.70 MEAN 24.1 MAX 319 MIN .30 AC-FT 17,450
WAT YR 1967: TOTAL 13,818.90 MEAN 37.9 MAX 218 MIN .56 AC-FT 27,410

Peak discharge (base, 420 cfs).--No peak above base.

14-0425. Camas Creek near Ukiah, Oreg.

Location.--Lat 45°09', long 118°49', in SE¼ sec.3, T.5 S., R.32 E., on right bank 1.2 miles upstream from Cable Creek, 6 miles east of Ukiah, and at mile 19.0.

Drainage area.--121 sq mi.

Records available.--May 1914 to September 1917, November 1919 to July 1920, November 1920 to June 1924, March 1932 to June 1940 (fragmentary), November 1940 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "above Cable Creek, near Ukiah" 1914-17, 1919-24.

Gage.--Water-stage recorder. Datum of gage is 3,588.61 ft above mean sea level (levels by State Highway Department). May 1, 1914, to June 30, 1924, staff gage and Mar. 1, 1932, to July 2, 1940, water-stage recorder, at site 1.2 miles downstream at different datum.

Average discharge.--31 years (1914-17, 1921-23, 1941-67), 97.1 cfs (70,300 acre-ft per year).

Extremes.--Maximum discharge during year, 511 cfs Jan. 29, May 18 (gage height, 2.51 ft); minimum, 1.7 cfs Aug. 18, Sept. 9, 10, 21-23. 1914-17, 1919-24, 1932-67: Maximum discharge, 3,840 cfs Jan. 30, 1965 (gage height, 5.21 ft); maximum gage height, 5.24 ft Feb. 3, 1963 (ice jam); minimum discharge recorded, 1 cfs Aug. 9, 1932, June 24 to July 2, 1940.

Remarks.--Records good. No regulation. Diversions for irrigation of 80 acres above station. Records of periodic suspended sediment loads for water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	4.9	72	30	185	60	119	139	114	18	3.7	2.1
2	3.5	4.9	79	28	153	62	109	153	96	16	4.0	2.1
3	3.9	4.9	74	28	134	56	117	169	92	15	3.7	2.4
4	3.9	4.9	70	28	124	53	134	191	90	15	3.4	2.4
5	3.7	4.9	72	28	114	50	162	212	92	14	3.2	2.4
6	3.5	8.0	61	28	103	48	165	246	94	12	3.2	2.4
7	3.3	7.2	56	26	94	48	191	297	90	11	3.2	2.1
8	3.3	6.8	49	24	88	50	222	360	84	10	3.4	2.1
9	3.1	7.6	44	24	81	54	222	435	75	10	3.2	1.9
10	3.1	12	38	26	73	53	219	440	68	8.8	3.2	1.9
11	3.5	13	40	26	66	52	230	380	64	8.8	3.2	3.4
12	3.9	20	42	26	65	44	212	390	68	7.6	2.9	4.3
13	5.2	18	164	31	64	40	208	445	59	7.2	2.9	4.0
14	5.2	18	234	62	58	42	205	415	49	7.2	2.6	3.2
15	4.9	28	151	107	53	45	178	375	45	7.2	2.9	2.6
16	4.6	64	114	145	52	101	153	395	45	7.2	2.4	2.4
17	4.3	44	92	119	56	178	139	466	44	8.8	2.1	2.1
18	4.3	33	82	99	58	198	134	500	43	7.6	1.9	2.1
19	4.3	28	75	96	55	178	126	435	39	8.0	2.1	2.1
20	4.3	47	72	117	46	169	119	410	35	7.2	2.4	2.1
21	5.2	58	66	103	46	185	109	420	56	6.4	2.4	1.9
22	7.2	47	60	86	48	208	105	440	70	6.0	2.1	1.9
23	9.3	39	55	70	49	305	105	385	53	5.6	2.1	1.9
24	8.4	33	50	70	53	289	124	297	41	6.0	2.1	1.9
25	6.8	32	46	70	52	222	145	226	36	5.6	2.1	2.1
26	5.6	32	41	72	49	188	159	181	31	5.0	2.4	2.1
27	5.2	28	41	82	52	159	165	153	28	4.6	2.4	2.1
28	5.2	32	39	219	56	151	156	148	26	4.3	2.4	2.4
29	4.9	47	37	385	- - - - -	142	142	153	23	4.6	2.6	2.6
30	4.9	52	35	355	- - - - -	129	139	148	20	4.3	2.4	3.7
31	5.2	- - - - -	31	249	- - - - -	124	- - - - -	137	- - - - -	4.0	2.1	- - - - -
Total	146.6	779.1	2,182	2,859	2,127	3,683	4,713	9,541	1,770	263.0	84.7	72.7
Mean	4.73	26.0	70.4	92.2	76.0	119	157	308	59.0	8.48	2.73	2.42
Max	9.3	64	234	385	185	305	230	500	114	18	4.0	4.3
Min	2.9	4.9	31	24	46	40	105	137	20	4.0	1.9	1.9
Ac-ft	291	1,550	4,330	5,670	4,220	7,310	9,350	18,920	3,510	522	168	144

Cal yr 1966: Total 15,900.2 Mean 43.6 Max 510 Min 1.6 Ac-ft 31,540
Wtr yr 1967: Total 28,221.1 Mean 77.3 Max 500 Min 1.9 Ac-ft 55,980

Peak discharge (base, 550 cfs).--No peak above base.

14-0440. Middle Fork John Day River at Ritter, Oreg.

Location.--Lat 44°53'20", long 119°08'25", in SW¼NW¼ sec.8, T.8 S., R.30 E., on left bank 0.2 mile south of Ritter, 0.8 mile downstream from Twelvemile Creek, and at mile 14.9.

Drainage area.--515 sq mi

Records available.--October 1929 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,544.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 14, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--38 years, 236 cfs (170,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,260 cfs May 10 (gage height, 5.20 ft); minimum, 7.0 cfs Aug. 26.

1929-67: Maximum discharge, 4,730 cfs Jan. 30, 1965 (gage height, 8.39 ft), from rating curve extended above 2,200 cfs; maximum gage height, 9.13 ft Feb. 1, 1963 (ice jam); minimum discharge, 0.90 cfs Aug. 19, 20, 1966.

Remarks.--Records excellent. No regulation. Many small diversions for irrigation of 2,700 acres above station. Records of suspended sediment loads and of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	35	115	84	430	191	289	303	588	146	23	13
2	27	34	175	81	362	218	269	296	570	132	19	12
3	40	34	172	77	318	194	282	314	534	122	20	12
4	36	34	142	81	292	162	292	350	529	117	20	12
5	28	35	197	80	282	172	318	394	524	108	20	12
6	26	48	165	75	248	175	326	475	507	97	18	13
7	27	55	130	78	248	178	342	618	507	90	18	14
8	25	46	110	75	224	180	386	772	496	82	18	15
9	24	42	90	77	224	191	404	980	480	81	18	14
10	24	60	88	82	206	200	404	1,180	450	77	19	14
11	25	70	92	81	185	191	408	956	430	70	18	16
12	29	90	98	81	180	152	394	884	390	59	18	21
13	36	84	534	94	178	188	382	877	374	56	17	31
14	36	85	529	158	165	148	399	807	358	55	16	26
15	32	84	300	242	154	162	366	758	366	51	15	24
16	33	94	221	254	156	300	346	978	362	50	15	23
17	32	105	170	200	165	512	318	930	354	59	14	22
18	34	75	152	158	209	465	303	1,110	350	60	14	20
19	31	64	138	160	170	404	286	1,070	338	50	15	20
20	34	106	128	178	142	378	269	1,040	326	46	14	21
21	41	122	124	180	156	405	257	1,080	576	41	14	20
22	45	98	92	165	150	[illegible]	248	1,170	534	36	14	19
23	48	87	64	118	150	468	242	1,170	422	39	13	19
24	52	70	85	110	162	512	292	1,040	346	36	10	18
25	51	63	103	130	170	426	358	898	296	34	9.7	18
26	42	71	94	140	165	8	378	779	263	31	7.9	17
27	41	66	82	165	[illegible]	342	366	737	233	30	9.7	18
28	39	64	75	480	[illegible]	334	346	765	215	29	11	17
29	39	81	88	1,040	------	346	330	772	187	29	13	19
30	36	88	94	884	------	314	310	674	165	29	13	21
31	36	------	87	588	------	303	------	600	------	25	13	------
TOTAL	1,070	2,090	4,734	6,396	5,847	8,992	9,910	24,677	12,070	1,967	477.3	541
MEAN	34.5	69.7	153	206	209	290	330	796	402	63.5	15.4	18.0
MAX	52	122	534	1,040	430	512	408	1,180	588	146	23	31
MIN	21	34	64	75	142	148	242	296	165	25	7.9	12
AC-FT	2,120	4,150	9,390	12,690	11,600	17,840	19,660	48,950	23,940	3,900	947	1,070

CAL YR 1966: TOTAL 46,302.10 MEAN 127 MAX 990 MIN .90 AC-FT 91,840
WAT YR 1967: TOTAL 78,771.3 MEAN 216 MAX 1,180 MIN 7.9 AC-FT 156,200

Peak discharge (base, 760 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-13	2100	4.77	919	5-10	0200	5.20	1,260
1-29	2200	5.17	1,240	5-23	0200	5.19	1,250

14-0460. North Fork John Day River at Monument, Oreg.

Location.--Lat 44°48'50", long 119°25'50", in SE¼ sec.2, T.9 S., R.27 E., on right bank just downstream from entrance to canyon, 0.7 mile downstream from Cottonwood Creek, 0.8 mile west of Monument, and at mile 15.3.

Drainage area.--2,520 sq mi, approximately.

Records available.--March 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,959.64 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 24, 1925, staff gage and Nov. 24, 1925, to Oct. 16, 1928, graphic water-stage recorder, at datum 1.10 ft higher. Oct. 17, 1928, to Sept. 30, 1930, graphic water-stage recorder at datum 1.00 ft higher. Oct. 1, 1930 to July 12, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--42 years, 1,196 cfs (865,900 acre-ft per year).

Extremes.--Maximum discharge during year, 8,110 cfs May 23 (gage height, 8.74 ft); minimum, 62 cfs Sept. 2-7.

1925-67: Maximum discharge, 33,400 cfs Jan. 30, 1965 (gage height, 18.45 ft), from rating extended above 17,000 cfs by logarithmic plotting; minimum, 6 cfs sometime during period Nov. 2-13, 1936 (result of freezeup); minimum daily, 17 cfs Dec. 12, 1932.

Remarks.--Records excellent. Very slight regulation by small reservoirs upstream. Many small diversions for irrigation above station. Records of suspended sediment loads and of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	83	113	542	444	2,650	915	1,420	1,560	2,860	830	137	74
2	81	111	1,020	415	2,240	942	1,320	1,520	2,800	753	133	67
3	86	110	871	398	1,930	912	1,330	1,550	2,610	687	126	63
4	110	108	774	408	1,740	807	1,390	1,690	2,550	652	123	63
5	114	109	812	437	1,610	732	1,510	1,910	2,520	596	120	63
6	100	123	822	403	1,390	792	1,600	2,250	2,510	543	115	63
7	93	140	660	396	1,310	808	1,670	2,850	2,460	491	109	63
8	92	146	602	393	1,190	794	1,870	3,650	2,370	445	112	70
9	87	134	497	386	1,170	816	1,980	4,700	2,300	421	111	71
10	85	138	458	405	1,100	869	2,020	5,920	2,150	409	111	70
11	86	165	472	410	1,010	861	2,110	5,030	2,050	385	109	77
12	93	211	604	431	928	752	2,050	4,290	1,930	347	104	83
13	102	265	2,890	452	941	761	1,970	4,110	1,850	320	101	101
14	109	251	3,590	768	874	728	1,940	3,810	1,730	295	98	125
15	111	299	2,040	1,030	802	690	1,800	3,720	1,740	276	91	102
16	102	394	1,470	1,460	760	994	1,640	4,240	1,770	258	86	94
17	104	568	1,160	1,200	808	2,850	1,530	5,380	1,760	258	84	89
18	100	411	995	1,000	910	2,360	1,450	6,770	1,780	271	82	85
19	104	316	892	914	834	2,070	1,370	6,590	1,740	249	83	82
20	103	522	833	1,130	697	1,900	1,280	6,480	1,770	227	81	79
21	107	836	809	1,270	659	1,940	1,210	6,770	2,310	219	80	81
22	134	587	652	1,080	729	1,960	1,170	7,470	2,610	207	80	79
23	138	455	482	813	764	2,340	1,140	7,430	2,090	199	78	76
24	140	377	465	706	792	2,530	1,320	6,310	1,740	187	76	75
25	159	313	536	815	851	2,170	1,600	5,150	1,490	176	72	74
26	154	314	511	850	834	1,930	1,880	4,270	1,330	168	68	74
27	137	323	495	898	811	1,740	1,740	3,860	1,220	161	72	73
28	131	299	435	3,740	872	1,610	1,690	3,800	1,110	154	72	72
29	125	379	451	6,180	------	1,620	1,550	4,010	998	154	75	68
30	123	443	455	5,230	------	1,490	1,480	3,590	910	150	78	68
31	115	------	447	3,550	------	1,450	------	3,160	------	147	79	------
TOTAL	3,406	8,960	27,742	38,012	31,206	43,133	48,030	133,840	59,058	10,635	2,946	2,324
MEAN	110	299	895	1,226	1,115	1,391	1,601	4,317	1,969	343	95.0	77.5
MAX	159	836	3,590	6,180	2,650	2,850	2,110	7,470	2,860	830	137	125
MIN	81	108	435	386	659	690	1,140	1,520	910	147	68	63
AC-FT	6,760	17,770	55,030	75,400	61,900	85,550	95,270	265,500	117,100	21,090	5,840	4,610

CAL YR 1966: TOTAL 224,333 MEAN 615 MAX 4,050 MIN 52 AC-FT 445,000
WAT YR 1967: TOTAL 409,294 MEAN 1,121 MAX 7,470 MIN 63 AC-FT 811,800

Peak discharge (base, 5,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
1-29	2130	8.67	7,320				
5-10	0930	8.10	6,240				
5-23	0700	8.74	8,110				

14-0465. John Day River at Service Creek, Oreg.

Location.--Lat 44°47'40", long 120°00'30", in N½ sec.18, T.9 S., R.23 E., on left bank 0.2 mile downstream from bridge on State Highway 207, 0.8 mile downstream from Service Creek, 0.5 mile southwest of town of Service Creek, and at mile 156.7.

Drainage area.--5,090 sq mi, approximately.

Records available.--March 1925 to September 1926, October 1929 to September 1967. Monthly discharge only March 1925 to September 1926, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 1,632.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 6, 1929, staff gage at site 12 miles downstream at different datum. Nov. 6-22, 1929, staff gage and Nov. 23, 1929, to Sept. 25, 1930, water-stage recorder, at site 1,000 ft upstream at datum 4.01 ft higher. Sept. 26, 1930, to Feb. 6, 1956, water-stage recorder at site 1,000 ft upstream at datum 3.21 ft higher. Feb. 7, 1956, to Feb. 23, 1957, wire-weight gage at site 500 ft upstream at datum 0.76 ft higher.

Average discharge.--39 years, 1,791 cfs (1,297,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,200 cfs Jan. 30 (gage height, 9.70 ft); minimum, 47 cfs Sept. 6.

1925-26, 1929-67: Maximum discharge, 40,200 cfs Dec. 23, 1964 (gage height, 17.85 ft), from rating curve extended above 14,000 cfs on basis of slope-area measurement of peak flow; minimum, 20 cfs Sept. 6, 1931.

Remarks.--Records excellent. Very slight regulation by several small reservoirs above station. Many small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	305	860	890	4,620	1,470	2,580	2,550	4,230	1,200	148	55
2	118	295	1,260	880	3,760	1,510	2,200	2,580	4,120	1,060	140	55
3	116	295	1,430	840	3,280	1,520	2,100	2,580	3,780	956	125	53
4	116	300	1,350	810	2,920	1,420	2,190	2,720	3,620	880	120	51
5	130	305	1,250	840	2,730	1,280	2,260	2,940	3,580	800	118	50
6	160	315	1,430	850	2,430	1,320	2,440	3,280	3,570	763	116	51
7	157	330	1,250	810	2,220	1,340	2,500	4,000	3,560	700	103	55
8	151	356	1,110	800	2,100	1,330	2,670	5,140	3,400	610	99	60
9	148	372	989	781	1,950	1,340	2,880	6,500	3,300	586	99	65
10	154	378	901	772	1,940	1,410	2,980	8,920	3,160	530	101	67
11	178	394	880	810	1,780	1,440	3,100	8,440	3,020	523	99	75
12	182	430	923	810	1,640	1,390	3,120	7,040	2,880	495	94	95
13	200	495	2,510	830	1,570	1,240	2,970	6,420	2,740	442	92	105
14	218	554	6,880	989	1,570	1,350	2,960	5,990	2,620	406	83	103
15	250	546	3,940	1,410	1,440	1,160	2,860	5,720	2,460	384	81	122
16	264	610	2,740	1,950	1,380	1,200	2,580	6,210	2,480	350	75	145
17	264	745	2,200	1,950	1,380	3,580	2,420	7,660	2,420	335	68	130
18	264	820	1,830	1,620	1,440	3,600	2,300	9,340	2,480	330	64	120
19	277	664	1,650	1,390	1,510	3,280	2,220	9,530	2,440	330	57	118
20	290	602	1,520	1,480	1,300	2,910	2,080	8,980	2,460	305	57	110
21	300	1,080	1,470	1,830	1,150	2,920	1,950	8,940	3,840	277	57	99
22	300	1,050	1,330	1,820	1,250	2,970	1,860	9,700	4,100	246	56	95
23	335	870	1,080	1,470	1,260	3,150	1,800	9,980	3,400	222	53	94
24	350	772	945	1,130	1,320	3,630	2,020	8,880	2,820	210	53	92
25	340	682	989	1,150	1,350	3,360	2,420	7,440	2,400	192	53	85
26	350	619	1,040	1,330	1,410	2,970	2,800	6,160	2,100	169	53	79
27	356	619	1,000	1,370	1,340	2,720	2,740	5,420	1,880	169	52	78
28	335	628	901	3,380	1,370	2,520	2,730	5,110	1,720	166	52	78
29	320	646	870	9,120	- - - - -	2,550	2,520	5,280	1,510	163	58	76
30	315	810	912	9,260	- - - - -	2,430	2,400	5,140	1,350	154	56	78
31	310	- - - - -	901	6,050	- - - - -	2,300	- - - - -	4,670	- - - - -	148	55	- - - - -
Total	7,376	16,887	48,341	59,422	53,410	66,610	74,650	193,260	87,440	14,101	2,537	2,539
Mean	238	563	1,559	1,917	1,908	2,149	2,488	6,234	2,915	455	81.8	84.6
Max	356	1,080	6,880	9,260	4,620	3,630	3,120	9,980	4,230	1,200	148	145
Min	116	295	860	772	1,150	1,160	1,800	2,550	1,350	148	52	50
Ac-ft	14,630	33,490	95,880	117,900	105,900	132,100	148,100	383,300	173,400	27,970	5,030	5,040

Cal yr 1966 : Total 332,945 Mean 912 Max 6,880 Min 34 Ac-ft 660,400
Wtr yr 1967 : Total 626,573 Mean 1,717 Max 9,980 Min 50 Ac-ft 1,243,000

Peak discharge (base, 7,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-14	0530	8.32	8,040				
1-30	0600	9.70	11,200				
5-10	1500	9.03	9,550				
5-23	1500	9.39	10,400				

14-0480. John Day River at McDonald Ferry, Oreg.

Location.--Lat 45°35'16", long 120°24'30", in NE¼NW¼ sec.11, T.1 N., R.19 E., on left bank at McDonald Ferry, 0.8 mile downstream from Rock Creek, 10 miles east of Klondike, and at mile 20.9.

Drainage area.--7,580 sq mi, approximately.

Records available.--December 1904 to September 1967. Prior to Oct. 1, 1930, published as "at McDonald."

Gage.--Water-stage recorder. Datum of gage is 392.27 ft above mean sea level, datum of 1929. Prior to Aug. 30, 1930, staff gage at same site and datum.

Average discharge.--62 years (1905-67), 1,996 cfs (1,445,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,600 cfs Jan. 31 (gage height, 7.38 ft); minimum, 40 cfs Aug. 29.

1904-67: Maximum discharge, 42,800 cfs Dec. 24, 1964 (gage height, 13.59 ft, from floodmark), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; no flow for part of Sept. 2, 1966.

Flood of 1894 reached a stage of 12.8 ft, from floodmarks (discharge, 39,100 cfs, from rating curve extended above 22,000 cfs).

Remarks.--Records excellent. No appreciable regulation. Many diversions for irrigation above station. Records of water temperatures and daily suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67	299	742	1,090	6,650	1,500	2,470	2,850	4,960	1,440	161	66
2	67	299	920	1,050	5,250	1,600	2,410	2,880	4,450	1,310	153	62
3	77	299	1,000	1,040	4,360	1,700	2,360	2,970	4,260	1,180	145	58
4	82	292	1,580	1,030	3,820	1,600	2,440	2,870	3,930	1,050	141	62
5	114	285	1,560	990	3,420	1,500	2,290	2,880	3,670	960	137	55
6	114	292	1,510	1,020	3,140	1,500	2,390	3,050	3,620	900	123	55
7	111	306	1,480	1,030	2,900	1,410	2,540	3,280	3,580	841	113	55
8	98	313	1,580	1,020	2,580	1,450	2,610	4,000	3,560	787	110	58
9	104	327	1,350	960	2,490	1,470	2,700	5,150	3,380	733	103	55
10	126	334	1,290	950	2,280	1,440	2,970	6,540	3,280	670	110	58
11	126	342	1,240	940	2,230	1,480	3,100	9,040	3,200	625	107	58
12	130	364	1,290	950	2,120	1,550	3,200	8,570	3,030	589	103	62
13	130	372	1,410	990	1,970	1,560	3,220	7,220	2,940	562	100	62
14	169	410	2,220	1,000	1,850	1,450	3,120	6,740	2,790	517	97	58
15	169	499	6,820	1,110	1,820	1,390	3,030	6,210	2,650	474	97	53
16	174	589	4,380	1,390	1,750	1,370	3,030	5,950	2,600	418	95	71
17	184	580	3,180	1,800	1,630	1,310	2,850	6,290	2,500	403	81	71
18	222	598	2,600	2,280	1,560	2,640	2,690	7,700	2,440	375	76	88
19	246	751	2,200	1,940	1,630	3,640	2,520	9,500	2,420	347	76	103
20	252	880	1,960	1,690	1,800	3,400	2,420	9,640	2,470	340	71	120
21	240	860	1,800	1,630	1,600	3,050	2,310	9,250	2,810	327	69	110
22	264	778	1,690	1,910	1,400	3,030	2,170	9,320	2,810	334	73	100
23	264	1,180	1,610	2,020	1,400	3,090	2,090	10,100	4,080	301	69	95
24	264	1,100	1,410	1,830	1,500	3,340	2,010	10,200	3,600	275	66	97
25	264	930	1,290	1,540	1,480	3,670	2,120	9,040	3,010	242	58	89
26	292	832	1,190	1,340	1,600	3,560	2,560	7,640	2,560	226	47	89
27	313	787	1,230	1,520	1,600	3,160	2,970	6,400	2,210	220	51	89
28	313	733	1,220	2,360	1,500	2,880	3,120	5,660	1,990	206	53	97
29	327	733	1,170	4,280	- - - - -	2,690	3,030	5,270	1,790	182	44	97
30	327	733	1,090	10,300	- - - - -	2,650	2,960	5,450	1,630	169	47	97
31	313	- - - - -	1,070	9,460	- - - - -	2,650	- - - - -	5,320	- - - - -	169	53	- - - - -
Total	5,943	17,097	55,082	62,460	67,330	68,730	79,700	196,980	92,220	17,172	2,829	2,290
Mean	192	570	1,777	2,015	2,405	2,217	2,657	6,354	3,074	554	91.3	76.3
Max	327	1,180	6,820	10,300	6,650	3,670	3,220	10,200	4,960	1,440	161	120
Min	67	285	742	940	1,400	1,310	2,010	2,850	1,630	169	44	53
Ac-ft	11,790	33,910	109,300	123,900	133,500	136,300	158,100	390,700	182,900	34,060	5,610	4,540

Cal yr 1966: Total 354,896.7 Mean 972 Max 6,820 Min 5.2 Ac-ft 703,900
Wtr yr 1967: Total 667,833 Mean 1,830 Max 10,300 Min 44 Ac-ft 1,325,000

Peak discharge (base, 6,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-15	0430	6.25	7,850				
1-31	0200	7.38	11,600				
5-11	1400	6.81	9,630				
5-24	1230	7.08	10,600				

14-0500. Deschutes River below Snow Creek, near La Pine, Oreg.

Location.--Lat 43°48'51", long 121°46'33", in NW¼ sec.28, T.20 S., R.8 E., on left bank at flow line of Crane Prairie Reservoir, 50 ft downstream from Snow Creek, 300 ft upstream from highway bridge, and 17 miles northwest of La Pine.

Drainage area.--132 sq mi including Sparks, Elk, and Mud Lake basins, which have no surface outflow to Deschutes River; hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--October 1937 to September 1967. Monthly discharge only October 1937, published in WSP 1318. Published as "near Lapine" 1937-64.

Gage.--Water-stage recorder. Altitude of gage is 4,445 ft (from elevation of Crane Prairie Reservoir when slack water extended to gage). Prior to Sept. 10, 1938, at site 450 ft downstream at different datum.

Average discharge.--30 years, 153 cfs (110,800 acre-ft per year).

Extremes.--Maximum discharge during year, 165 cfs Sept. 11 (gage height, 1.58 ft); minimum, 74 cfs Apr. 28 to May 2.

1937-67: Maximum discharge, 444 cfs July 13, 1956 (gage height, 3.13 ft); maximum gage height, 4.12 ft Jan. 21, 1943 (ice jam); minimum discharge, 40 cfs sometime during period Dec. 22, 1959, to Mar. 2, 1960, result of freezeup; minimum daily, 55 cfs for many days April to June 1941.

Remarks.--Records good. No regulation. Crater Creek Canal diverts water to Tumalo Creek basin from tributaries of Soda Creek. Stream is spring fed and peak discharge may occur several months after the precipitation which caused it.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	134	110	101	88	85	84	79	74	85	84	106	157
2	134	108	101	88	85	84	78	74	85	84	108	157
3	131	106	99	88	85	82	78	75	85	84	114	157
4	131	106	103	88	85	82	78	75	85	84	116	160
5	131	106	101	88	85	82	78	77	85	84	116	160
6	129	106	101	88	85	82	78	77	85	84	116	160
7	129	105	103	86	85	82	78	77	85	84	116	160
8	127	105	101	86	85	82	78	78	85	84	118	160
9	127	105	99	86	85	82	78	79	85	84	123	160
10	125	105	101	86	85	82	78	78	84	84	125	160
11	123	106	101	86	85	82	78	78	84	85	129	163
12	123	108	101	86	85	82	77	78	85	85	131	163
13	123	106	101	86	85	82	77	78	85	85	134	160
14	123	108	99	86	85	82	77	78	84	85	136	157
15	118	114	97	85	85	82	77	81	84	85	139	157
16	116	110	96	85	85	82	77	82	84	86	141	157
17	116	106	96	85	85	82	77	82	84	86	144	157
18	116	105	96	85	85	82	77	84	84	88	144	157
19	116	105	94	86	84	82	77	84	84	88	147	157
20	118	108	94	88	84	82	77	84	85	88	149	157
21	118	106	92	86	84	81	77	84	86	89	149	154
22	125	105	92	85	84	81	75	84	84	91	152	154
23	123	103	91	85	84	81	75	85	84	92	154	152
24	118	101	91	85	84	81	75	85	84	94	154	152
25	116	101	91	85	84	81	75	84	84	94	157	149
26	116	99	91	91	84	81	75	84	84	96	157	149
27	114	99	89	86	84	79	75	85	84	97	157	147
28	114	99	89	88	84	79	74	86	84	99	157	147
29	112	99	89	86		79	74	85	84	101	157	147
30	112	99	88	85	- - - - -	79	74	85	84	103	157	147
31	110	- - - - -	88	85	- - - - -	79	- - - - -	85	- - - - -	105	157	- - - - -
Total	3,768	3,149	2,976	2,677	2,370	2,525	2,301	2,505	2,534	2,762	4,260	4,674
Mean	122	105	96.0	86.4	84.6	81.5	76.7	80.8	84.5	89.1	137	156
Max	134	114	103	91	85	84	79	86	86	105	157	163
Min	110	99	88	85	84	79	74	74	84	84	106	147
Ac-ft	7,470	6,250	5,900	5,310	4,700	5,010	4,560	4,970	5,030	5,480	8,450	9,270

Cal yr 1966: Total 43,148 Mean 118 Max 165 Min 88 Ac-ft 85,580
Wtr yr 1967: Total 36,501 Mean 100 Max 163 Min 74 Ac-ft 72,400

14-0505. Cultus River above Cultus Creek, near La Pine, Oreg.

Location.--Lat 43°49'06", long 121°47'40", near line between secs.20 and 29, T.20 S., R.8 E., on left bank at highway culvert, 2 miles upstream from Cultus Creek, and 18 miles northwest of La Pine.

Drainage area.--16.5 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--October 1922 to September 1925, October 1937 to September 1967. Monthly discharge only October 1937, published in WSP 1318. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Water-stage recorder and cement bag control. Altitude of gage is 4,450 ft (by barometer). Oct. 1, 1922, to Sept. 30, 1925, staff gage at site half a mile upstream at different datum.

Average discharge.--33 years, 64.0 cfs (46,330 acre-ft per year).

Extremes.--Maximum discharge during year, 66 cfs May 23-25 (gage height, 0.56 ft); maximum gage height, 0.86 ft Aug. 3-10; minimum discharge, 38 cfs Mar. 16-28.

1922-25, 1937-67: Maximum discharge, 178 cfs May 31, 1956 (gage height, 1.04 ft); maximum gage height, 1.28 ft May 5, 6, 1965 (backwater from Crane Prairie Reservoir); minimum discharge, 26 cfs May 26-31, Nov. 23 to Dec. 4, 1959.

Remarks.--Records good. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	51	46	43	42	40	40	43	61	54	58	54
2	51	51	46	43	42	40	40	43	58	56	58	54
3	51	51	46	43	42	40	40	43	58	56	58	54
4	51	51	46	43	40	40	40	43	56	56	58	54
5	51	51	46	43	39	40	40	43	56	56	58	54
6	51	49	46	43	39	40	40	43	56	56	58	54
7	51	49	46	43	39	40	42	44	56	56	58	54
8	51	49	46	43	39	40	42	44	56	56	58	54
9	51	49	46	43	39	40	42	46	56	56	58	54
10	51	49	46	43	39	40	42	46	54	58	58	54
11	51	49	46	43	39	39	43	46	54	58	56	54
12	51	46	46	43	39	39	43	46	54	58	56	54
13	51	46	44	43	39	39	43	46	54	58	54	51
14	51	46	44	43	39	39	43	46	54	58	54	51
15	51	46	44	43	39	39	43	46	54	58	54	51
16	51	46	44	43	39	38	43	49	54	58	54	51
17	51	46	44	43	39	38	43	49	54	58	54	51
18	51	46	44	43	39	38	43	51	54	58	54	51
19	51	46	43	43	39	38	43	56	54	58	54	51
20	51	46	43	43	39	38	43	58	54	58	54	51
21	54	46	43	43	39	38	43	58	54	58	54	51
22	56	46	43	43	39	38	43	58	54	58	54	51
23	56	46	43	43	39	38	43	63	54	58	54	49
24	56	46	43	43	39	38	43	63	54	58	54	49
25	56	46	43	43	39	38	43	63	54	58	54	49
26	54	46	43	42	40	38	43	63	54	58	54	51
27	51	46	43	42	40	38	43	63	54	58	54	51
28	51	46	43	42	40	38	43	63	54	58	54	49
29	51	46	43	42		39	43	63	54	58	54	49
30	51	46	43	42	- - - - -	40	43	63	54	58	54	46
31	51	- - - - -	43	42	- - - - -	40	- - - - -	63	- - - - -	58	54	- - - - -
Total	1,607	1,423	1,375	1,327	1,105	1,208	1,268	1,614	1,647	1,778	1,718	1,551
Mean	51.8	47.4	44.4	42.8	39.5	39.0	42.3	52.1	54.9	57.4	55.4	51.7
Max	56	51	46	43	42	40	43	63	61	58	58	54
Min	51	46	43	42	39	38	40	43	54	54	54	46
Ac-ft	3,190	2,820	2,730	2,630	2,190	2,400	2,520	3,200	3,270	3,530	3,410	3,080

Cal yr 1966: Total 19,626 Mean 53.8 Max 68 Min 43 Ac-ft 38,930
Wtr yr 1967: Total 17,621 Mean 48.3 Max 63 Min 38 Ac-ft 34,950

14-0510. Cultus Creek above Crane Prairie Reservoir, near La Pine, Oreg.

Location.--Lat 43°49'17", long 121°49'22", in SW¼ sec.19, T.20 S., R.8 E., on left bank 1,000 ft upstream from highway bridge, 1.0 mile downstream from Cultus Lake, and 19 miles northwest of La Pine.

Drainage area.--33.2 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--March to September 1924 (published as "above Crane Prairie, near Lapine"), October 1937 to September 1967. Monthly discharge only October 1937 to September 1949, published in WSP 1318. Records for October 1923 to February 1924, published in WSP 594, have been found to be unreliable and should not be used. Published as "near Lapine" 1937-64.

Gage.--Water-stage recorder. Altitude of gage is 4,545 ft (by barometer). Mar. 1 to Sept. 30, 1924, staff gage at site 100 ft upstream at different datum.

Average discharge.--30 years (1937-67), 22.7 cfs (16,430 acre-ft per year).

Extremes.--Maximum discharge during year, 79 cfs June 2 (gage height, 1.92 ft); no flow Sept. 11-30.

1924, 1937-67: Maximum discharge, 336 cfs Dec. 25, 1964 (gage height, 4.15 ft, from floodmark), from rating curve extended above 90 cfs by logarithmic plotting; no flow at times.

Remarks.--Records good except those for October, November, and September, which are poor. Some regulation by fish screens at Cultus Lake since 1962. No diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.10	5.7	12	21	12	10	8.0	78	40	4.5	0.30
2	.10	.10	5.7	11	20	12	9.9	7.7	79	38	4.3	.30
3	.10	.10	5.7	11	20	12	9.9	7.4	76	35	4.0	.20
4	.10	.10	6.9	11	20	11	9.9	7.4	75	33	3.7	.20
5	.10	.10	8.0	8.0	19	11	9.9	7.4	74	30	3.4	.20
6	.10	.10	8.0	12	18	11	9.5	7.4	74	27	3.3	.10
7	.10	.10	9.9	16	18	11	9.5	7.4	73	26	2.8	.10
8	.10	.10	9.5	12	18	10	9.5	7.4	73	24	2.6	.10
9	.10	.10	9.5	11	17	10	9.2	7.4	72	22	2.4	.10
10	.10	.10	11	11	17	11	9.2	8.0	70	21	2.3	.10
11	.10	.10	14	11	16	11	9.2	8.5	69	20	2.2	0
12	.10	.10	17	11	15	11	9.2	9.2	68	18	2.1	0
13	.10	.10	18	12	15	11	8.8	9.5	67	17	2.0	0
14	.10	.20	18	12	16	11	8.8	10	66	16	1.9	0
15	.10	.90	18	11	16	11	8.8	12	66	15	1.7	0
16	.10	1.6	17	11	16	11	8.8	12	64	14	1.6	0
17	.10	1.7	17	11	16	10	8.8	14	64	13	1.5	0
18	.10	1.7	16	11	16	10	8.8	15	64	12	1.3	0
19	.10	2.0	16	9.9	15	10	8.8	18	64	11	1.3	0
20	.10	2.6	15	12	15	10	8.8	21	64	9.9	1.2	0
21	.10	3.3	14	13	15	10	8.8	27	64	9.5	.90	0
22	.10	3.7	14	13	14	10	8.5	36	63	8.8	.80	0
23	.10	3.5	13	12	14	10	8.5	45	62	8.0	.70	0
24	.10	3.5	13	12	13	10	8.5	57	61	7.7	.60	0
25	.10	3.8	12	12	13	10	8.5	64	57	7.4	.50	0
26	.10	4.1	13	18	12	10	8.5	67	54	6.9	.40	0
27	.10	4.1	12	17	12	10	8.3	70	49	6.4	.40	0
28	.10	4.3	12	20	12	9.9	8.3	74	46	5.9	.40	0
29	.10	4.7	12	20		9.9	8.3	75	44	5.7	.40	0
30	.10	5.3	12	20	- - - - -	9.9	8.0	76	42	5.3	.30	0
31	.10	- - - - -	12	22	- - - - -	10	- - - - -	78	- - - - -	4.9	.30	- - - - -
Total	3.10	52.30	384.9	405.9	449	326.7	269.5	873.7	1,942	518.4	55.80	1.70
Mean	0.10	1.74	12.4	13.1	16.0	10.5	8.98	28.2	64.7	16.7	1.80	0.06
Max	0.10	5.3	18	22	21	12	10	78	79	40	4.5	0.30
Min	0.10	0.10	5.7	8.0	12	9.9	8.0	7.4	42	4.9	0.30	0
Ac-ft	6.1	104	763	805	891	648	535	1,730	3,850	1,030	111	3.4

Cal yr 1966: Total 4,348.30 Mean 11.9 Max 64 Min 0.10 Ac-ft 8,620
Wtr yr 1967: Total 5,283.00 Mean 14.5 Max 79 Min 0 Ac-ft 10,480

Note.--No gage-height record Oct. 1 to Nov. 13, Aug. 29 to Sept. 30.

14-0520. Deer Creek above Crane Prairie Reservoir, near La Pine, Oreg.

Location (revised).--Lat 43°48'18", long 121°50'18", in NW¼NW¼ sec.36, T.20 S., R.7 E., on right bank 150 ft downstream from highway bridge, 1¼ miles downstream from Little Cultus Lake, and 19 miles northwest of La Pine.

Drainage area.--21.5 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--February to September 1924 (published as "above Crane Prairie, near Lapine"), October 1937 to September 1967. Monthly discharge only October 1937 to September 1949, published in WSP 1318. Records for October 1923 to January 1924, published in WSP 594, have been found to be unreliable and should not be used. Published as "near Lapine" 1937-64.

Gage.--Water-stage recorder and wooden weir control. Altitude of gage is 4,520 ft (by barometer). Feb. 1 to Sept. 30, 1924, staff gage at site 75 ft upstream at various datums. Oct. 1, 1937, to Sept. 30, 1938, water-stage recorder at bridge 150 ft upstream at different datum.

Average discharge.--30 years (1937-67), 7.53 cfs (5,450 acre-ft per year).

Extremes.--Maximum discharge during year, 54 cfs May 23 (gage height, 2.16 ft); minimum, 0.03 cfs Oct. 25-31, Nov. 3, 4.

1924, 1937-67: Maximum discharge, 200 cfs (estimated) Dec. 25, 1964 (gage height not determined); no flow at times.

Remarks.--Records good except those for January, August and September, which are poor. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.11	0.07	2.2	2.6	7.8	2.7	3.2	3.0	38	3.6	0.15	0.05
2	.11	.07	2.4	2.6	7.0	2.6	2.9	3.0	34	3.3	.15	.05
3	.15	.03	2.5	2.6	6.6	2.6	2.8	3.2	31	2.9	.15	.05
4	.15	.03	3.6	2.5	6.2	2.6	2.8	3.6	27	2.5	.15	.05
5	.15	.11	4.6	2.5	5.9	2.5	2.9	4.0	27	2.2	.15	.05
6	.15	.11	4.2	2.5	5.6	2.5	2.9	4.6	26	1.9	.14	.05
7	.20	.07	5.2	2.5	5.2	2.5	2.9	5.4	25	1.7	.14	.05
8	.20	.07	5.0	2.5	4.8	2.4	2.9	6.6	25	1.6	.13	.05
9	.20	.11	4.8	2.5	4.6	2.6	2.9	8.6	24	1.4	.13	.05
10	.20	.25	4.7	2.5	4.1	2.8	3.0	10	23	1.2	.12	.05
11	.20	.38	4.2	2.5	4.0	3.0	3.2	11	21	1.1	.12	.05
12	.25	.38	4.1	2.6	3.7	3.3	3.3	12	20	1.1	.11	.05
13	.25	.31	4.6	2.6	3.7	3.0	3.4	13	19	1.0	.11	.05
14	.20	.61	4.4	2.6	4.0	3.0	3.6	15	18	.93	.10	.05
15	.20	.93	4.0	2.7	4.2	2.8	3.6	17	15	.79	.09	.05
16	.20	1.0	3.6	2.7	4.6	2.8	3.4	20	13	.73	.09	.05
17	.20	.79	3.3	3.3	4.6	2.8	3.6	24	12	.61	.08	.05
18	.20	.73	3.0	3.3	4.6	2.8	3.7	31	11	.50	.08	.05
19	.15	.86	2.6	3.3	4.4	2.8	3.6	38	9.4	.44	.07	.05
20	.11	1.3	2.4	3.3	4.1	2.9	3.3	42	9.2	.38	.07	.05
21	.03	1.5	2.2	3.3	4.0	2.9	3.3	46	8.4	.38	.06	.05
22	.38	1.5	2.0	2.8	3.6	2.9	3.2	52	8.0	.31	.06	.05
23	.25	1.4	2.0	3.7	3.3	3.3	3.3	53	7.8	.31	.05	.05
24	.07	1.3	2.0	4.8	3.2	3.3	3.4	53	7.2	.25	.05	.05
25	.03	1.4	2.0	4.7	3.0	3.3	3.3	49	6.8	.20	.05	.05
26	.03	1.4	2.2	4.0	2.9	3.2	3.3	46	6.4	.20	.05	.05
27	.03	1.5	2.4	5.3	2.8	3.0	3.3	42	5.6	.20	.05	.05
28	.03	1.6	2.4	7.4	2.7	3.0	3.0	42	5.2	.25	.05	.05
29	.03	1.7	2.4	7.4	- - - - -	3.0	3.0	43	4.8	.25	.05	.05
30	.03	1.7	2.4	8.0	- - - - -	3.2	3.0	43	4.4	.25	.05	.05
31	.03	- - - - -	2.5	7.2	- - - - -	3.3	- - - - -	41	- - - - -	.20	.05	- - - - -
Total	4.52	23.21	99.9	112.8	125.2	89.4	96.0	785.0	492.2	32.68	2.90	1.50
Mean	0.15	0.77	3.22	3.64	4.47	2.88	3.20	25.3	16.4	1.05	0.09	0.05
Max	0.38	1.7	5.2	8.0	7.8	3.3	3.7	53	38	3.6	0.15	0.05
Min	0.03	0.03	2.0	2.5	2.7	2.4	2.8	3.0	4.4	0.20	0.05	0.05
Ac-ft	9.0	46	198	224	248	177	190	1,560	976	64.8	5.8	3.0

Cal yr 1966 : Total 1,530.73 Mean 4.19 Max 42 Min 0.03 Ac-ft 3,040
Wtr yr 1967 : Total 1,865.31 Mean 5.11 Max 53 Min 0.03 Ac-ft 3,700

Note.--No gage-height record Aug. 4 to Sept. 30.

14-0525. Quinn River near La Pine, Oreg.

Location (revised).--Lat 43°47'03", long 121°50'06", in SW¼NW¼ sec.1, T.21 S., R.7 E., on left bank at flow line of Crane Prairie Reservoir, 150 ft downstream from springs at head of river, and 18 miles northwest of La Pine.

Records available.--June 1922 to September 1925, October 1937 to September 1967. Published as "above Crane Prairie Reservoir near Lapine," 1922-25, and as "near Lapine," 1937-64. Monthly discharge only October 1937, published in WSP 1318.

Gage.--Water-stage recorder and log control. Datum of gage is 4,422.1 ft above mean sea level, based on elevation of Crane Prairie Reservoir when slack water reached station. June 1, 1922, to Sept. 30, 1925, staff gage at site 150 ft downstream at different datum.

Average discharge.--33 years, 24.3 cfs (17,590 acre-ft per year).

Extremes.--Maximum discharge during year, 26 cfs July 12 (gage height, 1.80 ft); minimum, 10 cfs Oct. 25 to Nov. 4.

1922-25, 1937-67: Maximum discharge, 59 cfs July 4, 1949 (gage height, 1.97 ft); maximum gage height, 3.92 ft June 25, 1943 (backwater from Crane Prairie Reservoir); practically no flow Nov. 14, 1941.

Remarks.--Records good. No regulation or diversion above station. Normal flow is entirely from springs 150 ft upstream.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	10	12	11	13	14	12	13	17	22	21	25
2	14	10	12	12	13	13	13	13	17	22	22	25
3	14	10	12	12	13	13	13	13	17	22	22	25
4	14	10	12	12	13	12	13	12	17	22	22	25
5	14	11	12	12	13	12	13	12	16	22	22	25
6	14	11	12	12	13	12	13	12	16	22	22	24
7	14	12	12	12	13	12	13	12	15	24	22	24
8	14	12	12	12	14	12	13	12	15	24	22	24
9	14	12	12	12	14	12	14	12	15	24	22	22
10	14	12	12	12	14	11	14	12	15	25	22	22
11	14	12	13	12	14	11	13	12	15	25	22	21
12	14	12	13	12	15	12	13	13	16	25	22	21
13	14	12	13	12	15	12	13	13	16	25	24	21
14	14	12	12	12	14	12	13	14	17	25	25	21
15	14	12	13	12	15	12	13	14	17	25	25	21
16	14	12	13	12	15	12	13	15	18	24	25	21
17	14	12	13	12	15	13	13	16	19	22	25	20
18	14	12	13	12	15	13	12	17	19	22	24	19
19	14	12	13	13	14	13	12	17	20	21	24	19
20	13	12	13	13	15	13	12	17	20	20	24	19
21	12	11	13	13	15	13	12	17	20	19	24	19
22	12	11	13	13	15	13	12	18	21	19	24	18
23	11	11	13	13	15	13	12	18	21	18	24	18
24	11	11	12	13	15	13	12	17	22	18	24	18
25	10	12	12	13	14	13	13	17	22	18	24	18
26	10	12	12	13	14	13	13	17	22	18	24	18
27	10	12	12	14	14	12	13	17	22	18	24	18
28	10	12	12	14	15	12	13	17	22	19	24	19
29	10	12	12	13	- - - - -	12	13	17	22	20	24	19
30	10	12	12	14	- - - - -	12	13	17	22	20	25	19
31	10	- - - - -	12	13	- - - - -	12	- - - - -	17	- - - - -	21	25	- - - - -
Total	395	346	384	387	397	384	384	460	553	671	725	628
Mean	12.7	11.5	12.4	12.5	14.2	12.4	12.8	14.8	18.4	21.6	23.4	20.9
Max	14	12	13	14	15	14	14	18	22	25	25	25
Min	10	10	12	11	13	11	12	12	15	18	21	18
Ac-ft	783	686	762	768	787	762	762	912	1,100	1,330	1,440	1,250

Cal yr 1966: Total 7,044 Mean 19.3 Max 27 Min 10 Ac-ft 13,970
Wtr yr 1967: Total 5,714 Mean 15.7 Max 25 Min 10 Ac-ft 11,330

14-0530. Charlton Creek above Crane Prairie Reservoir, near La Pine, Oreg.

Location (revised).--Lat 43°46'51", long 121°50'06", in NE¼SW¼ sec.1, T.21 S., R.7 E., on left bank 3 miles northwest of Crane Prairie Dam and 18 miles northwest of La Pine.

Drainage area.--15.6 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--May and June 1923, October 1937 to September 1951, May to September 1952, May to September 1953, May 1954 to September 1955, May 1956 to October 1962, May 1963 to November 1964, April to December 1965, February to November 1966, March to September 1967. Monthly discharge only prior to October 1949, published in WSP 1318. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Water-stage recorder. Datum of gage is 4,458.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. May 1 to June 30, 1923, staff gage at about same site at different datum.

Average discharge.--22 years (1937-51, 1954-55, 1956-62, 1963-64), 1.47 cfs (1,060 acre-ft per year).

Extremes.--Maximum discharge during year, 20 cfs May 22 (gage height, 1.35 ft); no flow most of year.

1923, 1937-67: Maximum discharge, 54 cfs June 12, 1950 (gage height, 1.53 ft), from rating curve extended above 27 cfs by logarithmic plotting; maximum gage height, 2.39 ft Mar. 9, 1957 (ice jam); no flow for many months each year.

Flood of December 1964 (discharge not determined) may have exceeded peak of record.

Remarks.--Records fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	7.2			
2								0	7.7			
3								0	6.6			
4								0	7.7			
5								0	7.7			
6								.20	7.2			
7								.40	7.7			
8								.60	8.2			
9								.80	8.2			
10								.80	8.2			
11								.60	7.7			
12								.70	6.6			
13								1.3	6.0			
14								2.0	5.2			
15								3.1	4.6			
16								4.9	4.9			
17								8.2	5.2			
18								9.9	5.2			
19								10	5.2			
20								12	4.9			
21								14	4.6			
22								17	4.6			
23								16	3.7			
24								15	2.5			
25								12	2.2			
26								11	1.9			
27								11	1.7			
28								12	1.4			
29					- - - - -			12	1.2			
30					- - - - -			10	.90			
31		- - - - -			- - - - -		- - - - -	7.7	- - - - -			- - - - -
Total	0	0				0	0	193.20	156.60	0	0	0
Mean	0	0				0	0	6.23	5.22	0	0	0
Max	0	0				0	0	17	8.2	0	0	0
Min	0	0				0	0	0	0.90	0	0	0
Ac-ft	0	0				0	0	383	311	0	0	0

Cal yr 1966: Total - Mean - Max - Min - Ac-ft -
Wtr yr 1967: Total - Mean - Max - Min - Ac-ft -

14-0535. Crane Prairie Reservoir near La Pine, Oreg.

Location (revised).--Lat 43°45'20", long 121°47'00", in SW¼NW¼ sec.16, T.21 S., R.8 E., on control structure at Crane Prairie Dam on Deschutes River, 15 miles northwest of La Pine, and at mile 238.3.

Drainage area.--254 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--November 1922 to November 1935, April to December 1936, April 1937 to September 1967. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Water-stage recorder. Datum of gage is 4,400.0 ft above mean sea level (levels by Bureau of Reclamation). Prior to July 13, 1940, staff gage, at site 150 ft upstream at same datum. July 13, 1940 to Sept. 15, 1966, staff or tape gage, at present site and datum. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum contents during year, 41,060 acre-ft Feb. 28 (elevation, 4,441.96 ft); minimum contents, 10,670 acre-ft Sept. 15 (elevation, 4,433.91 ft).

1922-67: Maximum contents observed, 60,500 acre-ft June 5-7, 1943 (elevation, 4,446.0 ft); no usable contents at times.

Remarks.--Reservoir originally formed by earth-filled dam completed in 1922, reconstructed as rock-faced, earth-fill dam in 1940. Capacity, 55,340 acre-ft between elevation 4,424.0 (lip of fish-screen structure) and 4,445.0 ft (crest of spillway). Some dead storage in isolated pools in reservoir at stages below 4,428 ft and natural flow passing through reservoir when outlet gates are open prevents withdrawal of remaining storage to elevation of sill of gates. Crater Creek Canal diverts water to Tumalo Creek basin from tributaries of Soda Creek above station. Released water diverted from Deschutes River near Bend for irrigation near Bend and Redmond.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,434.40	12,180	-
Oct. 31	4,435.27	15,000	+2,820
Nov. 30	4,437.85	24,160	+9,160
Dec. 31	4,439.77	31,720	+7,560
Calendar year 1966	-	-	-14,080
Jan. 31	4,441.33	38,300	+6,580
Feb. 28	4,441.94	40,980	+2,680
Mar. 31	4,441.46	38,860	-2,120
Apr. 30	4,440.79	35,980	-2,880
May 31	4,440.41	34,370	-1,610
June 30	4,439.21	29,450	-4,920
July 31	4,436.40	18,870	-10,580
Aug. 31	4,435.03	14,200	-4,670
Sept. 30	4,434.00	10,940	-3,260
Water year 1966-67	-	-	-1,240

† Elevation at 2400 hrs.

14-0540. Deschutes River below Crane Prairie Reservoir, near La Pine, Oreg.

Location (revised).--Lat 43°45'13", long 121°46'57", in SW¼NW¼ sec.16, T.21 S., R.8 E., on left bank 0.1 mile downstream from Crane Prairie Dam, 15 miles northwest of La Pine, and at mile 238.2.

Drainage area.--254 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--August 1907 to November 1908 and August 1912 to September 1913 (fragmentary), October 1913 to September 1917, February 1922 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1949, published as "at Crane Prairie, near Lapine." Published as "near Lapine" 1949-64.

Gage.--Water-stage recorder. Datum of gage is 4,419.78 ft above mean sea level (Pacific Power & Light Co. bench mark). Aug. 15, 1907, to Sept. 30, 1917, and Feb. 23 to June 8, 1922, staff gage at site half a mile upstream at different datums. June 9, 1922, to May 9, 1932, staff gage or water-stage recorder at present site and datum.

Average discharge.--49 years (1913-17, 1922-67), 211 cfs (152,800 acre-ft per year).

Extremes.--Maximum discharge during year, 459 cfs Sept. 13 (gage height, 2.13 ft); minimum, 1.0 cfs Oct. 10, Nov. 29.

1913-17, 1922-67: Maximum discharge, 1,170 cfs July 28, 1947 (gage height, 3.34 ft); minimum, 1.0 cfs Oct. 10, Nov. 29, 1966.

Remarks.--Records good. Flow regulated since 1922 by Crane Prairie Reservoir (see sta. no. 0535). No diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	71	34	36	35	145	70	160	289	289	368	328
2	196	47	34	36	35	145	70	160	289	289	368	328
3	194	40	34	36	35	145	119	160	289	289	372	324
4	194	40	34	36	35	145	160	160	289	289	372	324
5	194	40	34	36	35	145	160	160	289	289	372	332
6	194	40	35	36	35	145	160	158	289	289	372	332
7	194	40	35	36	35	145	160	158	286	289	372	332
8	191	40	36	36	35	145	160	158	286	289	368	328
9	191	40	36	36	35	145	160	158	286	289	368	328
10	155	40	36	36	35	145	160	158	289	289	368	328
11	155	40	36	36	35	145	160	158	289	289	368	328
12	155	40	36	36	35	145	160	158	289	289	260	395
13	155	40	36	36	35	145	160	158	289	289	199	434
14	155	40	36	36	35	145	160	158	289	289	199	434
15	155	40	36	35	35	145	160	158	289	289	199	341
16	155	40	36	35	35	145	160	160	289	289	199	208
17	155	40	37	35	35	145	160	160	289	289	199	208
18	155	40	37	35	35	142	160	160	289	289	199	208
19	155	40	37	35	35	142	160	160	289	339	199	208
20	155	40	37	35	35	142	160	160	289	364	199	208
21	155	40	37	35	35	142	160	160	289	364	199	220
22	155	40	37	35	35	142	160	160	289	364	199	230
23	155	40	37	35	35	142	160	163	289	364	199	230
24	106	42	37	35	35	108	160	239	289	364	199	226
25	79	42	37	35	36	70	160	289	289	364	199	226
26	71	42	37	35	36	70	160	289	289	364	199	230
27	71	42	37	35	36	70	160	289	289	364	288	230
28	71	42	37	35	97	70	160	289	289	364	332	230
29	71	36	37	35	- - - - -	70	160	289	289	368	332	230
30	71	34	37	35	- - - - -	70	160	289	289	368	332	230
31	71	- - - - -	37	35	- - - - -	70	- - - - -	289	- - - - -	368	332	- - - - -
Total	4,525	1,238	1,119	1,099	1,045	3,915	4,579	5,925	8,661	9,921	8,730	8,538
Mean	146	41.3	36.1	35.5	37.3	126	153	191	289	320	282	285
Max	196	71	37	36	97	145	160	289	289	368	372	434
Min	71	34	34	35	35	70	70	158	286	289	199	208
Ac-ft	8,980	2,460	2,220	2,180	2,070	7,770	9,080	11,750	17,180	19,680	17,320	16,930

Cal yr 1966: Total 67,229 Mean 184 Max 463 Min 34 Ac-ft 133,300
Wtr yr 1967: Total 59,295 Mean 162 Max 434 Min 34 Ac-ft 117,600

14-0545. Brown Creek near La Pine, Oreg.

Location (revised).--Lat 43°43'25", long 121°48'25", in NE¼SE¼ sec.30, T.21 S., R.8 E., on left bank 1.5 miles upstream from mouth and 16 miles northwest of La Pine.

Drainage area.--19.7 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--May 1922 to September 1925, July 1938 to September 1967. Monthly discharge only July 1938 to September 1949, published in WSP 1318. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Water-stage recorder. Datum of gage is 4,372.94 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. May 24, 1922, to Sept. 30, 1925, staff gage and July 1, 1938, to Nov. 1, 1945, water-stage recorder, at site 1¼ miles downstream at different datums.

Average discharge.--32 years, 39.4 cfs (28,520 acre-ft per year).

Extremes.--Maximum discharge during year, 46 cfs June 20 (gage height, 1.89 ft); minimum, 22 cfs Feb. 7-12.

1922-25, 1938-67: Maximum discharge, 104 cfs Aug. 4, 1956 (gage height, 1.64 ft); maximum gage height, 2.10 ft Aug. 12-24, Sept. 8-15, 1965; minimum discharge, 16 cfs July 22-25, 1941, and at times December 1941 to March 1942.

Remarks.--Records good. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	36	32	28	28	26	28	29	28	31	34	36
2	32	36	31	28	28	26	28	29	28	31	34	36
3	32	34	31	28	28	26	28	29	28	31	34	36
4	32	34	31	28	26	26	29	29	28	31	34	36
5	32	34	31	28	25	26	29	29	28	31	34	36
6	32	34	31	28	23	26	29	29	28	31	34	36
7	32	32	31	28	22	26	31	29	28	29	34	36
8	32	32	31	28	22	26	32	31	28	29	34	36
9	32	32	31	28	22	26	34	31	28	29	34	36
10	32	32	31	28	22	26	32	31	28	29	34	36
11	32	32	31	28	22	26	34	31	28	29	34	36
12	32	32	32	28	22	26	34	31	28	29	34	36
13	32	32	32	28	23	26	34	31	28	29	34	36
14	31	36	32	28	23	26	32	31	28	29	34	36
15	31	36	32	28	25	26	32	29	28	29	34	36
16	31	32	31	28	25	26	31	29	28	29	34	36
17	31	29	31	28	25	26	31	29	28	29	34	34
18	31	29	31	28	26	26	31	29	28	29	36	34
19	31	31	29	28	26	26	31	29	29	29	36	34
20	34	32	29	28	26	26	31	29	34	29	36	34
21	36	31	29	28	25	26	31	29	34	29	36	34
22	39	31	29	28	25	28	31	29	31	31	36	34
23	37	31	29	28	25	29	31	29	31	31	36	34
24	37	31	29	28	25	28	32	29	31	31	36	34
25	37	31	29	26	25	28	32	29	31	32	36	34
26	37	31	29	28	25	28	32	29	31	32	36	34
27	36	31	29	28	25	28	31	29	31	32	36	34
28	36	31	29	28	25	28	31	29	31	32	36	34
29	36	31	29	28	- - - - -	28	31	28	31	32	36	34
30	36	31	28	28	- - - - -	28	31	28	31	32	36	34
31	36	- - - - -	28	28	- - - - -	28	- - - - -	28	- - - - -	32	36	- - - - -
Total	1,039	967	938	866	689	827	934	910	880	938	1,082	1,052
Mean	33.5	32.2	30.3	27.9	24.6	26.7	31.1	29.4	29.3	30.3	34.9	35.1
Max	39	36	32	28	28	29	34	31	34	32	36	36
Min	31	29	28	26	22	26	28	28	28	29	34	34
Ac-ft	2,060	1,920	1,860	1,720	1,370	1,640	1,850	1,800	1,750	1,860	2,150	2,090

Cal yr 1966: Total 12,315 Mean 33.7 Max 49 Min 28 Ac-ft 24,430
Wtr yr 1967: Total 11,122 Mean 30.5 Max 39 Min 22 Ac-ft 22,060

14-0555. Odell Creek near Crescent, Oreg.

Location (revised).--Lat 43°32'51", long 121°57'41", in SW¼SW¼ sec.25, T.23 S., R.6 E., on left bank 1,000 ft downstream from Odell Lake, 3 miles north of town of Crescent Lake, and 14 miles northwest of Crescent.

Drainage area.--39.0 sq mi.

Records available.--August, September 1911, August, September 1912, January, February, May to November 1913, April to August 1914, December 1923 to June 1924, May 1933 to September 1967. Gage heights and discharge measurements only August, September 1911, January 1913. Published as Odell Lake outlet near Crescent 1911-12. Records for January to July 1912, published in WSP 332, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 4,799.05 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Aug. 5 to Sept. 18, 1911, Aug. 14, 1912, to Aug. 12, 1914, and Nov. 18, 1923, to June 7, 1924, staff gage at several sites within 700 ft of present site at various datums.

Average discharge.--34 years (1933-67), 81.3 cfs (58,860 acre-ft per year).

Extremes.--Maximum discharge during year, 162 cfs May 31 (gage height, 1.16 ft); minimum, 21 cfs Aug. 7-9, 25, 26, Sept. 3, 6, 9.

1912-14, 1923-24, 1933-67: Maximum discharge, 1,100 cfs Dec. 25, 1964 (gage height, 2.60 ft), from rating curve extended above 250 cfs by logarithmic plotting; minimum, 9 cfs sometime during period Sept. 7-30, 1934.

Remarks.--Records good. Flow affected occasionally in winter by ice jams at outlet of Odell Lake, and slightly affected at times by seiches in Odell Lake. No diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	32	55	83	73	122	57	63	49	144	105	24	23
2	30	54	86	59	115	57	61	48	135	102	24	22
3	28	52	83	59	109	54	59	48	128	102	24	21
4	29	50	88	63	99	52	57	48	125	97	24	22
5	32	52	112	73	94	52	57	46	122	94	24	22
6	32	55	105	80	88	54	57	46	128	88	24	21
7	31	54	112	73	83	52	55	46	125	83	23	22
8	31	52	125	71	80	52	54	48	125	75	22	22
9	31	52	112	67	75	54	52	52	128	71	22	21
10	31	61	115	65	75	61	52	55	128	67	23	22
11	31	69	109	65	71	59	54	57	125	65	24	26
12	32	78	112	69	69	57	52	59	125	63	24	27
13	33	80	115	78	71	59	54	59	125	57	24	26
14	33	99	115	73	78	57	55	59	125	55	24	25
15	33	125	105	75	80	55	55	59	125	55	24	25
16	32	135	99	73	83	55	55	61	125	52	25	26
17	31	128	94	67	86	57	57	65	128	49	25	26
18	32	118	88	63	86	57	59	69	132	48	25	26
19	31	112	86	61	75	59	57	75	135	44	24	26
20	32	122	80	86	71	63	55	83	140	43	25	26
21	38	125	75	97	69	63	54	88	148	43	24	26
22	48	118	71	91	67	61	52	99	144	43	24	26
23	52	105	69	86	65	65	52	115	140	42	24	25
24	52	99	67	80	63	65	52	125	132	40	23	26
25	61	97	75	80	61	63	52	128	125	40	22	25
26	71	91	71	109	59	61	52	128	122	38	22	24
27	67	86	67	118	57	59	52	128	118	29	22	24
28	63	86	65	128	57	59	52	132	115	24	23	25
29	61	83	67	132		61	50	144	112	24	24	24
30	59	80	63	125	- - - - -	63	50	153	109	24	24	27
31	57	- - - - -	61	128	- - - - -	65	- - - - -	148	- - - - -	24	22	- - - - -
Total	1,256	2,573	2,775	2,567	2,208	1,808	1,638	2,520	3,838	1,786	732	729
Mean	40.5	85.8	89.5	82.8	78.9	58.3	54.6	81.3	128	57.6	23.6	24.3
Max	71	135	125	132	122	65	63	153	148	105	25	27
Min	28	50	61	59	57	52	50	46	109	24	22	21
Cfsm	1.04	2.20	2.29	2.12	2.02	1.49	1.40	2.08	3.28	1.48	0.605	0.623
In.	1.20	2.45	2.65	2.45	2.11	1.72	1.56	2.40	3.66	1.70	0.70	0.70
Ac-ft	2,490	5,100	5,500	5,090	4,380	3,590	3,250	5,000	7,610	3,540	1,450	1,450

Cal yr 1966:	Total	25,307	Mean	69.3	Max	182	Min	25	Cfsm	1.78	In.	24.13	Ac-ft	50,200
Wtr yr 1967:	Total	24,430	Mean	66.9	Max	153	Min	21	Cfsm	1.72	In.	23.30	Ac-ft	48,460

14-0560. Wickiup Reservoir near La Pine, Oreg.

Location (revised).--Lat 43°41'02", long 121°41'20", in SW¼NE¼ sec.7, T.22 S., R. 9 E., in gate-chamber structure at Wickiup Dam on Deschutes River, 9 miles west of La Pine, and at mile 226.8.

Drainage area.--482 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--December 1942 to September 1967. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Tape gage read daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Jan. 15, 1945, staff gages at nearby sites at same datum.

Extremes.--Maximum contents observed during year, 187,000 acre-ft May 2 (elevation, 4,336.47 ft); minimum observed, 12,330 acre-ft Sept. 27 (elevation, 4,288.45 ft).

1942-67: Maximum contents observed, 202,800 acre-ft Apr. 2, 1965 (elevation, 4,337.91 ft); minimum observed since reservoir first filled in March 1949, 523 acre-ft Oct. 18, 1952 (elevation, 4,270.86 ft).

Remarks.--Reservoir is formed by rock-faced, earth-fill dam completed in 1949. Some storage began in December 1942, Capacity, 182,000 acre-ft between elevations 4,265.0 (no storage) and 4,336.0 ft (crest of spillway, with earth soft plug to elevation, 4,339.0 ft). Crater Creek Canal diverts water above station to Tumalo Creek basin. Released water is diverted from Deschutes River at Bend for irrigation near Madras.

Cooperation.--Daily elevations furnished by North Unit Irrigation District, and capacity table furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,299.90	28,310	-
Oct. 31	4,307.93	44,080	+15,770
Nov. 30	4,320.22	76,900	+32,820
Dec. 31	4,326.76	106,200	+29,300
Calendar year 1966	-	-	-76,600
Jan. 31	4,330.85	134,600	+28,400
Feb. 28	4,333.22	154,900	+20,300
Mar. 31	4,335.84	180,400	+25,500
Apr. 30	4,336.42	186,500	+6,100
May 31	4,332.10	144,900	-41,600
June 30	4,327.67	111,800	-33,100
July 31	4,315.84	63,590	-48,210
Aug. 31	4,299.40	27,450	-36,140
Sept. 30	4,288.83	12,750	-14,700
Water year 1966-67	-	-	-15,560

† Elevation at 0800 hrs.

14-0565. Deschutes River below Wickiup Reservoir, near La Pine, Oreg.

Location (revised).--Lat 43°41'10", long 121°41'13", in NW¼NE¼ sec.7, T.22 S., R.9 E., on left bank 1,000 ft downstream from Wickiup Dam, 9 miles west of La Pine, and at mile 226.4.

Drainage area.--483 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--June 1938 to September 1967. Monthly discharge only June 1938, published in WSP 1318. Published as "near Lapine" 1938-64.

Gage.--Water-stage recorder. Datum of gage is 4,257.41 ft above mean sea level (levels by Bureau of Reclamation).

Average discharge.--29 years, 752 cfs (544,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,900 cfs July 25 (gage height, 6.64 ft); minimum, 10 cfs Dec. 13.

1938-67: Maximum discharge, 2,280 cfs July 28 to Aug. 1, 1956, July 31, Aug. 1, 2, 1962; minimum, 5 cfs Nov. 21, 1962, when gate was closed for outlet inspection and repair; minimum daily, 10 cfs Jan. 17, 1952.

Remarks.--Records good. Flow regulated by Crane Prairie Reservoir (see sta. no. 0535), and since 1942 by Wickiup Reservoir (see sta. no. 0560). Some leakage from Crane Prairie and Wickiup Reservoirs does not pass station. Some spill bypassed station in 1955. Crater Creek canal diverts water above station to Tumalo Creek basin.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	648	23	24	20	21	21	485	272	1,410	1,420	1,720	1,590
2	651	30	23	20	21	21	509	497	1,250	1,490	1,720	1,590
3	651	36	23	20	21	21	494	679	1,230	1,520	1,720	1,580
4	654	36	23	20	20	21	506	724	1,100	1,650	1,720	1,580
5	651	37	23	20	20	21	578	889	1,100	1,700	1,720	1,660
6	648	38	23	20	20	22	581	1,010	1,100	1,750	1,710	1,700
7	642	38	24	20	20	22	557	1,020	1,100	1,790	1,670	1,690
8	639	38	24	20	20	23	512	1,160	1,340	1,830	1,640	1,690
9	639	33	24	20	20	24	515	1,240	1,360	1,830	1,640	1,690
10	639	25	23	20	20	25	506	1,200	1,430	1,830	1,640	1,690
11	633	21	23	20	20	25	452	1,200	1,480	1,840	1,610	1,670
12	633	22	23	20	20	25	419	1,200	1,480	1,840	1,580	1,580
13	633	24	22	20	20	24	407	1,260	1,470	1,840	1,580	1,290
14	636	26	20	20	20	23	407	1,460	1,470	1,840	1,580	1,080
15	636	25	20	20	20	23	425	1,310	1,470	1,840	1,580	1,060
16	636	33	20	20	20	24	443	1,320	1,470	1,840	1,580	970
17	639	34	21	20	20	24	356	1,320	1,490	1,840	1,580	962
18	636	30	22	20	20	24	225	1,360	1,630	1,860	1,590	962
19	630	33	21	20	20	25	213	1,320	1,620	1,890	1,590	956
20	630	34	21	20	20	25	213	1,320	1,570	1,890	1,590	952
21	630	34	21	21	21	25	213	1,320	1,310	1,890	1,590	980
22	633	35	21	21	21	26	220	1,400	1,180	1,890	1,590	1,060
23	560	35	21	21	22	26	232	1,470	1,100	1,890	1,580	1,080
24	390	35	21	21	23	26	230	1,470	1,100	1,890	1,580	1,080
25	285	35	21	21	24	26	222	1,470	1,110	1,880	1,580	1,080
26	270	35	21	22	22	26	222	1,470	1,110	1,790	1,590	1,040
27	272	35	21	23	20	26	222	1,530	1,110	1,790	1,590	878
28	233	36	21	22	20	26	222	1,580	1,140	1,780	1,590	875
29	139	35	21	21		26	225	1,570	1,270	1,750	1,590	872
30	60	31	20	21	- - - - -	27	242	1,560	1,340	1,720	1,590	844
31	27	- - - - -	20	21	- - - - -	176	- - - - -	1,460	- - - - -	1,720	1,590	- - - - -
Total	16,303	962	676	635	576	899	11,053	38,061	39,340	55,320	50,220	37,731
Mean	526	32.1	21.8	20.5	20.6	29.0	368	1,228	1,311	1,785	1,620	1,258
Max	654	38	24	23	24	176	581	1,580	1,630	1,890	1,720	1,700
Min	27	21	20	20	20	21	213	272	1,100	1,420	1,580	844
Ac-ft	32,340	1,910	1,340	1,260	1,140	1,780	21,920	75,490	78,030	109,700	99,610	74,840

Cal yr 1966: Total 308,611 Mean 846 Max 1,970 Min 20 Ac-ft 612,100
Wtr yr 1967: Total 251,776 Mean 690 Max 1,890 Min 20 Ac-ft 499,400

14-0575. Fall River near La Pine, Oreg.

Location (revised).--Lat 43°47'48", long 121°34'18", in NW¼SE¼ sec.31, T.20 S., R.10 E., on left bank 50 ft downstream from pond spillway at State fish hatchery, 9 miles northwest of La Pine, and at mile 4.8.

Drainage area.--45.1 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--July 1938 to September 1967. Records for May to September 1912 at site 3 miles downstream not equivalent owing to difference in drainage area. Prior to Oct. 1, 1964, published as "near Lapine."

Gage.--Water-stage recorder. Altitude of gage is 4,220 ft (by barometer).

Average discharge.--29 years, 154 cfs (111,500 acre-ft per year).

Extremes.--Maximum discharge during year, 182 cfs June 20 (gage height, 1.57 ft); minimum, 108 cfs sometime between Jan. 9 and Feb. 20.
1938-67: Maximum discharge, 254 cfs June 5, 1965 (gage height, 2.02 ft); minimum, 68 cfs Apr. 6, 1942.

Remarks.--Records good. Diversion only to ponds at fish hatchery 50 ft above station, from which water returns to river above station. Stream is spring fed and momentary extremes are caused by operation of fish hatchery.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	156	151	145	140	138	138	144	145	145	139	134	130
2	156	150	145	140	138	138	144	145	145	139	134	130
3	155	150	144	140	138	138	144	145	145	139	134	130
4	155	150	147	140	138	138	144	145	145	139	134	130
5	155	150	147	139	138	138	144	145	145	139	134	130
6	155	150	147	139	138	138	144	145	145	138	134	130
7	155	150	148	138	138	138	144	145	145	138	133	130
8	155	150	145	138	138	138	144	145	145	138	133	130
9	155	150	147	138	138	138	144	147	145	138	133	130
10	153	150	145	138	138	138	145	147	145	138	133	130
11	153	150	145	138	138	138	145	147	145	136	132	130
12	153	150	145	138	138	138	145	147	145	136	132	128
13	153	150	145	138	138	140	145	147	145	136	132	128
14	153	150	145	138	138	140	145	147	145	136	132	128
15	151	151	144	138	138	140	145	147	145	134	132	128
16	151	150	144	138	138	140	145	147	145	134	132	128
17	151	148	144	138	138	140	145	147	145	134	132	128
18	151	147	144	138	138	140	145	147	145	134	132	128
19	151	148	142	138	138	140	145	147	145	134	132	128
20	153	148	142	138	138	140	145	147	145	134	132	128
21	153	148	142	138	138	140	145	147	145	134	132	128
22	155	147	142	138	138	140	145	147	144	134	132	128
23	153	145	142	138	138	142	145	147	144	134	132	128
24	151	145	142	138	138	142	145	147	144	134	130	128
25	151	145	142	138	138	142	145	147	144	134	130	128
26	151	145	142	138	138	142	145	147	144	134	130	128
27	151	145	142	138	138	142	145	147	140	134	130	128
28	151	147	142	138	138	142	145	147	140	134	130	128
29	151	145	142	138	- - - - -	142	145	147	140	134	130	128
30	151	145	142	138	- - - - -	142	145	147	140	134	130	128
31	151	- - - - -	142	138	- - - - -	142	- - - - -	147	- - - - -	134	130	- - - - -
Total	4,739	4,450	4,462	4,288	3,864	4,334	4,341	4,541	4,325	4,207	4,092	3,862
Mean	153	148	144	138	138	140	145	146	144	136	132	129
Max	156	151	148	140	138	142	145	147	145	139	134	130
Min	151	145	142	138	138	138	144	145	140	134	130	128
Ac-ft	9,400	8,830	8,850	8,510	7,660	8,600	8,610	9,010	8,580	8,340	8,120	7,660

Cal yr 1966: Total 61,434 Mean 168 Max 189 Min 142 Ac-ft 121,900
Wtr yr 1967: Total 51,505 Mean 141 Max 156 Min 128 Ac-ft 102,200

Note.--No gage-height record Jan. 9 to Feb. 20, Feb. 24 to Mar. 5, Mar. 7 to Apr. 13.

14-0595. Crescent Lake near Crescent, Oreg.

Location.--Lat 43°30'05" (revised), long 121°58"20", in SW¼ sec. 11, T.24 S., R.6 E., on outlet works at dam on Crescent Creek, 0.8 mile south of town of Crescent Lake, 14 miles west of Crescent, and at mile 30.0.

Drainage area.--60.7 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--August 1922 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Oct. 1, 1956, staff gage at nearby site at datum 4,825.16 ft above mean sea level. Oct. 1, 1956, to Oct. 17, 1957, staff gage and Oct. 18, 1957 to Sept. 12, 1966, wire-weight gage, at present site and datum.

Extremes.--Maximum contents during year, 66,270 acre-ft June 30 (elevation, 4,840.21 ft); minimum, 32,200 acre-ft Sept. 25 (elevation, 4,831.09 ft).

1922-67: Maximum contents observed, 79,970 acre-ft Mar. 8, 1957 (elevation, 4,843.76 ft); minimum observed, 9,640 acre-ft Oct. 21, 1931 (elevation, 4,827.91 ft).

Remarks.--Reservoir originally formed by dam of earth and logs completed in 1922, reconstructed as earth-fill dam in 1956. Capacity, 117,200 acre-ft between elevations 4,821.5 (sill of outlet gate) and 4,853.0 ft (crest of spillway). Maximum allowable storage, 86,050 acre-ft (elevation, 4,845.32 ft). Dead storage about 500,000 acre-ft (Oregon Game Commission survey). Records given herein represent usable contents. Water surface probably cannot be lowered below elevation 4,823.4 ft owing to natural flow through reservoir. Released water is diverted from Deschutes River at Bend for irrigation near Tumalo.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,833.36	40,490	-
Oct. 31	-	43,200	+2,710
Nov. 31	4,835.18	47,220	+4,020
Dec. 31	4,835.88	49,840	+2,620
Calendar year 1966	-	-	-20,800
Jan. 31	4,836.84	53,450	+3,610
Feb. 28	4,837.04	54,190	+740
Mar. 31	4,837.32	55,250	+1,060
Apr. 30	4,837.39	55,510	+260
May 31	4,838.58	60,030	+4,520
June 30	4,840.19	66,190	+6,160
July 31	4,836.62	52,620	-13,570
Aug. 31	4,833.18	39,830	-12,790
Sept. 30	4,831.22	32,670	-7,160
Water year 1966-67	-	-	-7,820

† Elevation at 2400 hrs.

Note.--Contents interpolated for days on which gage readings not shown.

14-0600. Crescent Creek at Crescent Lake, near Crescent, Oreg.

Location.--Lat 43°30'11" (revised), long 121°58'20", in SE¼SW¼ sec.11, T.24 S., R.6 E., on left bank 400 ft downstream from Crescent Lake Dam, 0.5 mile south of town of Crescent Lake, 14 miles west of Crescent, and at mile 29.9.

Drainage area.--60.7 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--January to September 1911 (gage heights and discharge measurements only), January 1912 to July 1915, July to September 1927, May 1928 to September 1967. Published as Crescent Lake outlet near Crescent January 1911 to September 1912, and as Crescent Creek at outlet of Crescent Lake, near Crescent October 1913 to July 1915.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 4,819.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Jan. 11, 1911, to July 31, 1915, staff gage near present site at different datums. July 19, 1927, to June 1936 water-stage recorder near present site at different datum. June 1936 to July 14, 1955, water-stage recorder and Parshall flume at site 100 ft upstream at datum 6.76 ft higher. July 15, 1955, to Sept. 10, 1956, water-stage recorder at site 150 ft downstream at different datum.

Average discharge.--41 years (1912-14, 1928-67), 57.1 cfs (41,340 acre-ft per year).

Extremes.--Maximum discharge during year, 308 cfs July 12 (gage height, 3.29 ft); minimum, 1.7 cfs Oct. 7-10.

1912-15, 1927-67: Maximum discharge, 313 cfs July 9, 1929, Aug. 9, 1936; no flow at times.

Remarks.--Records good. Flow regulated since 1922 by Crescent Lake (see sta. no. 0595). No diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	6.4	6.4	7.4	8.1	7.8	7.4	7.4	6.4	235	204	195
2	2.6	6.4	6.4	7.4	8.1	7.8	7.4	7.4	7.1	235	204	194
3	2.4	6.4	6.4	7.4	8.1	7.8	7.4	7.4	7.4	235	204	192
4	2.3	6.8	6.8	7.4	8.1	7.8	7.4	7.4	7.4	235	202	187
5	2.1	6.8	6.8	7.4	8.1	7.8	7.4	7.4	6.8	235	202	187
6	1.9	6.8	6.8	7.4	8.1	7.8	7.4	7.4	6.8	235	202	186
7	1.7	6.8	6.8	7.4	8.1	7.8	7.4	7.4	6.8	235	202	186
8	1.7	6.8	6.8	7.4	8.1	7.8	7.4	7.4	7.0	235	200	185
9	1.7	6.8	6.8	7.4	8.1	7.8	7.4	7.1	7.0	235	200	183
10	5.8	7.1	7.1	7.4	8.1	7.8	7.4	7.1	7.0	235	200	181
11	8.1	7.1	7.1	7.4	8.1	7.8	7.4	7.1	7.2	233	199	177
12	7.4	6.8	7.1	7.4	8.1	7.8	7.4	7.1	7.2	265	215	177
13	6.1	6.8	7.1	7.4	8.1	7.8	7.4	7.1	7.2	306	222	176
14	6.1	6.8	7.1	7.4	8.1	7.8	7.4	7.1	7.4	304	222	176
15	5.4	6.8	7.1	7.4	8.1	7.8	7.4	7.1	7.4	302	221	173
16	5.4	6.8	7.1	7.4	8.1	7.8	7.4	7.1	7.6	301	219	172
17	5.4	6.4	7.1	7.4	7.8	7.8	7.4	7.1	7.6	280	219	170
18	5.4	6.4	7.1	7.4	7.8	7.8	7.4	7.1	7.6	230	219	168
19	5.1	6.4	7.4	7.4	7.8	7.4	7.4	7.1	7.8	229	218	168
20	5.4	6.4	7.4	7.4	7.8	7.4	7.4	6.8	7.8	215	219	167
21	5.4	6.4	7.4	7.4	7.8	7.4	7.4	6.4	7.8	188	226	164
22	5.4	6.4	7.4	7.4	7.8	7.4	7.1	6.1	8.0	187	228	163
23	5.4	6.4	7.4	7.4	7.8	7.4	7.1	6.4	8.0	186	226	162
24	5.7	6.4	7.4	7.4	7.8	7.4	7.4	5.4	8.1	186	225	161
25	5.7	6.4	7.4	7.4	7.8	7.4	7.4	5.4	8.1	186	223	109
26	6.1	6.4	7.4	7.8	7.8	7.4	7.4	5.7	8.5	188	223	11
27	5.7	6.4	7.4	7.8	7.8	7.4	7.4	5.7	8.5	188	226	10
28	6.1	5.7	7.4	7.8	7.8	7.4	7.4	5.4	8.8	188	215	10
29	6.4	6.1	7.4	7.8		7.4	7.4	5.4	8.8	190	198	10
30	6.4	6.4	7.4	8.1	- - - - -	7.4	7.4	5.7	103	190	196	10
31	6.4	- - - - -	7.4	8.1	- - - - -	7.4	- - - - -	6.4	- - - - -	191	196	- - - - -
Total	149.3	196.8	220.1	232.4	223.2	236.6	221.4	208.1	322.1	7,083	6,575	4,410
Mean	4.82	6.56	7.10	7.50	7.97	7.63	7.38	6.71	10.7	228	212	147
Max	8.1	7.1	7.4	8.1	8.1	7.8	7.4	7.4	103	306	228	195
Min	1.7	5.7	6.4	7.4	7.8	7.4	7.1	5.4	6.4	186	196	10
Ac-ft	296	390	437	461	443	469	439	413	639	14,050	13,040	8,750

Cal yr 1966: Total 30,037.6 Mean 82.3 Max 198 Min 1.7 Ac-ft 59,580
Wtr yr 1967: Total 20,078.0 Mean 55.0 Max 306 Min 1.7 Ac-ft 39,820

14-0630. Little Deschutes River near La Pine, Oreg.

Location (revised).--Lat 43°41'22", long 121°30'06", in SW¼SW¼ sec.2, T.22 S., R.10 E., on right bank 10 ft downstream from highway bridge at former town of Rosland, 1.1 miles north of La Pine, and at mile 26.8.

Drainage area.--859 sq mi, hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--September 1910 to January 1911, March, April, August 1911, March to September 1912, June to October 1913, June to November 1918, August to October 1920, May 1924 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as Deschutes River near Lapine 1910-12, as East Fork Deschutes River near Lapine 1913-20, and as "Little Deschutes River near Lapine" 1924-64.

Gage.--Water-stage recorder. Datum of gage is 4,192.81 ft above mean sea level, datum of 1929. Sept. 1, 1910, to Aug. 31, 1911, staff gage at present site at different datum. Mar. 1 to Sept. 30, 1912, staff gage at site 1½ miles downstream at different datum. June 1, 1913, to Sept. 28, 1928, staff gage and Sept. 29, 1928, to Sept. 30, 1931, water-stage recorder, at present site at different datums.

Average discharge.--43 years (1924-67), 202 cfs (146,200 acre-ft per year).

Extremes.--Maximum discharge during year, 568 cfs May 28 (gage height, 5.89 ft); minimum, 48 cfs Oct. 12.

1910-13, 1918, 1920, 1924-67: Maximum discharge, 3,660 cfs Dec. 25, 1964 (gage height, 8.18 ft); minimum, 8 cfs Sept. 2, 3, 1931.

Remarks.--Records good. Flow regulated since 1922 by Crescent Lake (see sta. no. 0595). Diversions for irrigation of 13,700 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	70	128	100	226	130	142	143	481	142	209	209
2	60	70	140	100	195	138	150	150	475	229	222	207
3	57	70	149	100	173	127	160	157	463	300	228	206
4	57	70	135	108	162	115	160	178	430	313	226	206
5	55	70	144	112	157	105	160	202	394	311	225	206
6	53	72	129	98	148	111	160	222	359	310	222	206
7	53	73	129	96	137	126	170	242	341	306	222	204
8	51	73	113	95	129	131	170	263	329	304	225	202
9	49	73	99	95	130	137	170	294	321	301	229	201
10	49	72	114	90	124	135	180	338	315	296	229	201
11	49	76	122	90	123	120	188	374	308	290	228	204
12	50	89	138	95	123	115	172	386	307	286	225	212
13	55	107	173	109	127	102	179	379	303	282	222	211
14	56	109	211	124	119	113	185	362	297	293	246	209
15	57	125	197	124	122	105	173	352	283	321	250	206
16	57	213	164	119	116	120	162	350	266	336	248	201
17	56	247	143	111	118	152	163	355	246	339	246	200
18	55	185	136	107	124	164	166	355	238	339	244	203
19	53	139	131	109	119	150	164	369	235	331	243	200
20	55	154	126	118	112	143	161	386	252	276	242	196
21	60	177	116	137	105	152	169	412	268	265	238	195
22	70	196	105	122	111	158	166	422	264	252	229	192
23	84	159	100	118	117	173	162	438	261	233	233	190
24	110	120	100	110	120	191	159	460	259	228	233	186
25	98	106	100	110	120	177	164	490	238	222	231	185
26	83	104	100	120	111	157	162	532	209	218	231	182
27	73	111	100	134	114	146	162	560	188	214	237	120
28	69	111	100	136	121	143	158	563	173	214	240	81
29	69	124	100	196		140	150	545	164	213	242	71
30	69	126	100	246	- - - - -	136	143	515	149	212	222	67
31	69	- - - - -	100	265	- - - - -	136	- - - - -	496	- - - - -	212	211	- - - - -
Total	1,943	3,491	3,942	3,794	3,703	4,248	4,930	11,290	8,816	8,388	7,178	5,559
Mean	62.7	116	127	122	132	137	164	364	294	271	232	185
Max	110	247	211	265	226	191	188	563	481	339	250	212
Min	49	70	99	90	105	102	142	143	149	142	209	67
Ac-ft	3,850	6,920	7,820	7,530	7,340	8,430	9,780	22,390	17,490	16,640	14,240	11,030

Cal yr 1966: Total 72,462 Mean 199 Max 454 Min 49 Ac-ft 143,700
Wtr yr 1967: Total 67,282 Mean 184 Max 563 Min 49 Ac-ft 133,500

14-0645. Deschutes River at Benham Falls, near Bend, Oreg.

Location (revised).--Lat 43°55'49", long 121°24'39", in SW¼NE¼ sec.16, T.19 S., R.11 E., on right bank 0.5 mile upstream from Benham Falls, 10 miles southwest of Bend, and at mile 181.4

Drainage area.--1,759 sq mi.

Records available.--April 1906 to September 1913, April to September 1914, August to December 1920, April to September 1921, February 1924 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "at West's ranch, near Lava" April 1906 to February 1909, April to September 1914. Records for January 1905 to March 1906 and October 1913 to September 1914, published under present name in WSP 370 and 394, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 4,142.10 ft above mean sea level (Bureau of Reclamation bench mark). Apr. 1, 1906, to Feb. 28, 1909, and Apr. 1 to Sept. 30, 1914, staff gage at site 8 miles upstream at various datums. Mar. 1, 1909, to Sept. 30, 1913, and Aug. 27, 1920, to Sept. 30, 1921, staff gage at two different sites within 1,000 ft downstream from present site at various datums. Feb. 12, 1924, to Nov. 12, 1947, water-stage recorder at site 1,500 ft downstream at datum 2.00 ft higher and Nov. 13, 1947, to Nov. 19, 1958, at datum 1.00 ft higher.

Average discharge.--50 years (1906-13, 1924-67), 1,412 cfs (1,022,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,610 cfs July 20, 21 (gage height, 6.19 ft); minimum, 578 cfs Jan. 8.

1906-14, 1920-21, 1924-67: Maximum discharge, 5,000 cfs (estimated) Nov. 27, 1909 (gage height not determined); minimum, 363 cfs Jan. 20, 1962.

Remarks.--Records good. Flow regulated by Crane Prairie Reservoir, Crescent Lake, and Wickiup Reservoir. Diversions for irrigation of over 14,000 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,240	616	672	602	732	637	740	914	2,470	1,960	2,340	2,190
2	1,220	598	665	598	736	651	1,090	941	2,400	2,010	2,330	2,180
3	1,220	592	668	606	720	654	1,130	1,180	2,250	2,110	2,330	2,170
4	1,210	595	682	612	696	644	1,130	1,340	2,170	2,190	2,340	2,160
5	1,210	598	690	606	679	634	1,140	1,400	2,050	2,320	2,340	2,170
6	1,210	606	679	595	662	620	1,210	1,600	2,000	2,400	2,340	2,200
7	1,200	606	668	595	658	626	1,220	1,720	1,950	2,450	2,330	2,250
8	1,190	602	648	584	658	640	1,200	1,750	1,950	2,490	2,310	2,270
9	1,180	606	620	588	658	651	1,160	1,870	2,100	2,520	2,280	2,260
10	1,180	612	640	598	651	665	1,180	1,970	2,150	2,540	2,270	2,260
11	1,180	616	654	609	644	662	1,190	1,990	2,190	2,540	2,270	2,270
12	1,180	612	665	609	644	640	1,150	2,030	2,250	2,550	2,270	2,270
13	1,180	616	690	630	648	640	1,100	2,050	2,260	2,550	2,240	2,210
14	1,180	637	716	626	648	626	1,100	2,110	2,250	2,540	2,220	2,040
15	1,180	676	736	630	640	626	1,100	2,270	2,250	2,540	2,220	1,770
16	1,180	712	724	630	640	634	1,110	2,190	2,240	2,550	2,230	1,700
17	1,180	728	693	620	640	658	1,140	2,160	2,220	2,570	2,230	1,610
18	1,180	768	672	609	640	679	1,060	2,170	2,220	2,570	2,230	1,590
19	1,180	744	658	620	644	693	932	2,190	2,300	2,580	2,230	1,590
20	1,180	732	654	626	640	693	910	2,180	2,370	2,610	2,230	1,580
21	1,190	720	648	592	630	686	910	2,180	2,360	2,610	2,230	1,570
22	1,210	728	623	602	623	690	914	2,190	2,150	2,590	2,220	1,590
23	1,210	732	602	595	626	704	918	2,250	1,980	2,580	2,210	1,640
24	1,140	704	606	609	634	712	941	2,330	1,870	2,550	2,200	1,660
25	1,020	668	612	623	637	724	928	2,340	1,860	2,540	2,190	1,670
26	910	651	616	623	637	716	918	2,360	1,840	2,520	2,190	1,660
27	869	644	620	630	630	696	918	2,380	1,820	2,470	2,200	1,620
28	852	654	602	662	630	682	914	2,430	1,800	2,430	2,210	1,460
29	828	662	620	682	- - - - -	676	914	2,510	1,810	2,420	2,210	1,400
30	744	665	606	700	- - - - -	672	905	2,540	1,890	2,390	2,210	1,380
31	679	- - - - -	595	708	- - - - -	676	- - - - -	2,530	- - - - -	2,350	2,200	- - - - -
Total	34,512	19,700	20,244	19,219	18,325	20,607	31,172	62,065	63,420	76,040	69,850	56,390
Mean	1,113	657	653	620	654	665	1,039	2,002	2,114	2,453	2,253	1,880
Max	1,240	768	736	708	736	724	1,220	2,540	2,470	2,610	2,340	2,270
Min	679	592	595	584	623	620	740	914	1,800	1,960	2,190	1,380
Ac-ft	68,450	39,070	40,150	38,120	36,350	40,870	61,830	123,100	125,800	150,800	138,500	111,800

Cal yr 1966: Total 563,304 Mean 1,543 Max 2,570 Min 592 Ac-ft 1,117,000
Wtr yr 1967: Total 491,544 Mean 1,347 Max 2,610 Min 584 Ac-ft 975,000

Diversions from Deschutes River near Bend, Oreg.

The following six canals, which are equipped with water-stage recorders, are the only diversions from Deschutes River between gaging stations at Benham Falls and below Bend.

14-0655. Arnold Canal near Bend diverts at mile 174.5 from right bank at head of Lava Island, in SW¼ sec.27, T.18 S., R.11 E.; water used for irrigation southeast of Bend. Records available, October 1912 to September 1967.

14-0665. Central Oregon Canal above Pilot Butte Canal, near Bend diverts at mile 169.5 from right bank in NE¼ sec.13, T.18 S., R.11 E.; water used for irrigation east of Bend. Beginning Oct. 1, 1932, record obtained upstream from intake of Pilot Butte Canal. Records available October 1932 to September 1967.

14-0685. Deschutes County Municipal Improvement District Canal at Bend diverts at mile 165.8 from left bank in NW¼ sec.32, T. T.17 S., R.12 E., at Bend; water stored in Crescent Lake for Tumalo project is diverted by this canal and supplements flow in Tumalo project feed canal for irrigation near Tumalo. Records available May 1923 to September 1967.

14-0690. North Unit main canal near Bend diverts at mile 164.8 from right bank to NE¼ sec.29, T.17 S., R.12 E.; water used for irrigation near Madras. Records available October 1945 to September 1967.

14-0695. North Canal near Bend diverts at mile 164.8 from right bank in NE¼ sec.29, T.17 S., R.12 E., water used for irrigation north of Bend, mostly near Redmond. Records available June 1913 to September 1967.

14-0700. Swalley Canal near Bend diverts at mile 164.8 from right bank in NE¼ sec.29, T.17 S., R.12 E., water used for irrigation north of Bend. Records available July 1913 to September 1967.

Records of monthly discharge of these canals, published as a group, are available from October 1926 to September 1967; records for each canal published separately prior to 1926.

Diversions, in acre-feet, water year October 1966 to September 1967

Month	Arnold Canal	Central Oregon Canal	Deschutes County Municipal Improvement District Canal	North Unit main canal	North Canal	Swalley Canal	Total
October	4,410	19,780	847	15,660	17,080	4,300	62,080
November	343	1,450	0	0	0	139	1,930
December	238	2,440	0	0	1,700	65	4,440
January	103	458	0	0	1,830	89	2,480
February	252	3,860	0	0	2,190	323	6,620
March	317	1,330	0	9,970	1,810	583	14,010
April	2,550	16,490	0	14,750	15,180	3,020	51,990
May	5,220	29,130	2,960	41,210	27,300	5,840	111,700
June	6,310	32,000	1,420	38,460	31,140	6,920	116,200
July	6,990	34,350	4,890	52,820	34,590	6,490	140,100
August	6,850	34,210	8,150	38,580	34,780	7,180	129,800
September	5,660	28,140	7,920	31,190	25,990	5,560	104,500
Water year 1967	39,250	204,000	26,200	242,600	193,600	40,500	745,800

14-0705. Deschutes River below Bend, Oreg.

Location (revised).--Lat 44°04'59", long 121°18'24", in SE¼SE¼ sec.20, T.17 S., R.12 E., on right bank 0.4 mile downstream from North Canal, 0.5 mile north of Bend city limits, and at mile 164.4.

Drainage area.--1,899 sq mi.

Records available.--October 1914 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 3,503.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1931, at site 200 ft downstream at datum 1.00 ft higher.

Average discharge.--53 years, 545 cfs (394,600 acre-ft per year).

Extremes.--Maximum discharge during year, 846 cfs Dec. 2 (gage height, 2.97 ft); minimum, 14 cfs Apr. 21.

1914-67: Maximum discharge, 2,820 cfs Dec. 27, 1964 (gage height, 4.90 ft); maximum gage height, 5.38 ft Dec. 15, 1932 (backwater from ice); minimum discharge, 1.0 cfs Aug. 25, 1930.

Maximum discharge known near this site since 1905, 4,820 cfs Nov. 27, 1909.

Remarks.--Records good. Flow regulated by powerplant at Bend, Crescent Lake, Crane Prairie Reservoir, and Wickiup Reservoir. Six large canals and several small ditches divert water above station for irrigation.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	608	410	455	664	310	184	24	41	19	22	19
2	34	550	490	350	692	350	280	25	50	21	24	18
3	34	550	636	360	664	400	88	50	105	24	23	18
4	34	550	587	370	562	556	72	30	34	26	22	19
5	35	556	440	410	286	425	59	28	26	27	23	19
6	35	556	430	568	156	320	88	30	24	28	23	19
7	35	568	425	568	136	325	63	28	24	30	24	20
8	35	568	466	562	142	370	61	30	23	27	22	21
9	34	568	587	562	145	438	40	31	24	30	22	22
10	33	568	601	568	250	601	47	33	24	28	22	23
11	27	580	615	580	587	608	70	34	26	27	22	24
12	23	574	629	580	580	587	75	36	27	27	30	24
13	26	580	664	601	587	574	42	36	26	32	27	22
14	32	601	671	601	580	568	22	38	27	32	24	22
15	33	650	699	601	574	562	23	64	27	32	24	22
16	33	685	699	594	562	568	38	40	26	32	26	22
17	33	692	671	594	580	587	55	31	25	32	23	22
18	33	727	650	580	580	608	88	31	25	28	21	22
19	33	734	629	587	580	491	75	30	27	33	20	21
20	33	720	622	615	580	238	46	27	31	34	20	21
21	33	706	615	568	574	224	27	28	38	55	20	21
22	33	699	601	562	562	224	34	28	28	95	20	21
23	33	706	574	562	562	234	35	30	27	63	20	22
24	33	699	574	568	568	247	34	31	24	33	20	22
25	33	615	562	556	556	234	35	32	23	32	18	22
26	67	538	375	568	472	229	30	33	22	30	18	22
27	121	514	306	544	335	184	22	32	21	27	19	22
28	105	325	292	594	301	133	27	34	19	27	21	22
29	92	315	278	556	- - - - -	121	25	40	19	26	19	23
30	75	375	345	380	- - - - -	118	28	47	19	23	20	23
31	186	- - - - -	508	678	- - - - -	133	- - - - -	54	- - - - -	23	20	- - - - -
Total	1,462	17,677	16,651	16,842	13,417	11,567	1,813	1,065	882	1,003	679	640
Mean	47.2	589	537	543	479	373	60.4	34.4	29.4	32.4	21.9	21.3
Max	186	734	699	678	692	608	280	64	105	95	27	24
Min	23	315	278	350	136	118	22	24	19	19	18	18
Ac-ft	2,900	35,060	33,030	33,410	26,610	22,940	3,600	2,110	1,750	1,990	1,350	1,270

Cal yr 1966: Total 134,546 Mean 369 Max 1,350 Min 21 Ac-ft 266,900
Wtr yr 1967: Total 83,698 Mean 229 Max 734 Min 18 Ac-ft 166,000

14-0730. Tumalo Creek near Bend, Oreg.

Location (revised).--Lat 44°05'16", long 121°22'18", NW¼SE¼ sec.23, T.17 S., R.11 E., on left bank 0.25 mile upstream from Tumalo feed canal, 4 miles northwest of Bend, and at mile 3.1.

Drainage area.--47.3 sq mi.

Records available.--October 1913 to December 1921, February, April to November 1922, March 1923 to September 1967. Published as "below Bend" 1949-50.

Gage.--Water-stage recorder. Datum of gage is 3,566.82 ft above mean sea level, datum of 1929. Prior to Apr. 27, 1915, staff gage and Apr. 27, 1915, to Sept. 30, 1918, water-stage recorder or staff gage, at same site and datum.

Average discharge.--49 years (1913-14, 1916-21, 1923-35, 1936-67), 103 cfs (74,570 acre-ft per year).

Extremes.--Maximum discharge during year, 585 cfs June 20; minimum daily, 47 cfs Sept. 27, 28.

1913-67: Maximum discharge, 1,000 cfs about Jan. 6, 1923 (no flow in canal), from rating curve extended above 450 cfs; minimum daily, 25 cfs Jan. 3, 1924.

Remarks.--Records good. All records given herein include flow in Columbia Southern Canal, which diverts 8 miles above station for irrigation of lands near Tumalo. No flow in the canal Oct. 1 to May 8. Crater Creek Canal diverts flow of tributaries of Soda Creek into head of Tumalo Creek. Diversion above station for municipal supply of Bend began Dec. 15, 1926, and averaged 8.5 cfs for water year 1967.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	66	70	58	60	54	52	49	208	220	69	57
2	55	64	64	58	60	54	52	49	204	226	63	55
3	54	60	64	58	60	52	52	49	202	227	61	56
4	52	60	66	60	60	52	52	50	214	208	61	56
5	50	60	64	57	58	50	52	52	227	191	61	56
6	50	62	64	57	57	50	52	55	235	176	62	57
7	50	58	64	57	57	50	52	64	247	149	59	56
8	52	57	60	57	57	50	52	75	252	142	56	53
9	52	60	60	55	57	52	54	87	248	142	56	52
10	50	62	66	55	57	52	54	79	250	132	56	55
11	52	64	64	55	55	52	54	76	234	125	56	71
12	57	73	70	55	55	52	52	76	219	130	56	60
13	55	71	79	55	57	52	52	74	222	126	58	54
14	55	79	75	54	60	50	52	82	230	105	58	52
15	57	73	70	58	57	50	52	103	252	93	54	50
16	57	71	70	57	57	54	52	115	271	90	54	49
17	57	70	68	57	57	54	52	144	300	86	53	50
18	55	64	66	57	55	52	50	161	341	76	56	52
19	58	66	66	57	55	52	50	168	354	80	57	50
20	60	73	66	58	55	52	50	174	422	87	58	49
21	58	71	62	57	55	52	50	189	429	85	58	49
22	73	68	66	57	54	54	50	218	291	83	55	50
23	73	62	66	55	54	55	52	219	238	83	52	48
24	66	62	60	55	54	54	52	216	240	84	54	49
25	64	64	60	55	54	52	52	205	240	78	53	48
26	62	64	58	57	52	52	52	200	254	76	55	48
27	60	60	60	66	52	52	50	208	264	72	57	47
28	60	62	58	73	54	54	50	224	240	67	57	47
29	62	62	60	71		52	49	224	233	72	54	50
30	66	64	58	66	- - - - -	52	49	202	230	73	54	56
31	68	- - - - -	57	64	- - - - -	54	- - - - -	189	- - - - -	72	56	- - - - -
Total	1,794	1,952	2,001	1,811	1,575	1,619	1,546	4,076	7,791	3,656	1,769	1,582
Mean	57.9	65.1	64.5	58.4	56.2	52.2	51.5	131	260	118	57.1	52.7
Max	73	79	79	73	60	55	54	224	429	227	69	71
Min	50	57	57	54	52	50	49	49	202	67	52	47
Ac-ft	3,560	3,870	3,970	3,590	3,120	3,210	3,070	8,080	15,450	7,250	3,510	3,140

Cal yr 1966: Total	31,086	Mean 85.2	Max 272	Min 40	Ac-ft 61,660
Wtr yr 1967: Total	31,172	Mean 85.4	Max 429	Min 47	Ac-ft 61,830

14-0750. Squaw Creek near Sisters, Oreg.

Location.--Lat 44°14'02", long 121°33'57", in SE¼SW¼ sec.29, T.15 S., R. 10 E., on right bank 600 ft upstream from intake of McAllister ditch, 4 miles south of Sisters, and at mile 26.8.

Drainage area.--54.8 sq mi.

Records available.--July 1906 to October 1918, June to August 1919, October 1919 to September 1920, May 1921 to September 1924 (no winter records), April 1925 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Altitude of gage is 3,490 ft (by barometer). July 1, 1906, to May 29, 1913, staff gage at site 800 ft downstream at different datum, below intake of McAllister ditch (records include flow in McAllister ditch). May 30, 1913, to Sept. 2, 1915, staff gage and Mar. 24, 1916, to Oct. 5, 1928, water-stage recorder, at site 100 ft downstream at different datum.

Average discharge.--55 years (1906-18, 1919-20, 1925-67), 105 cfs (76,020 acre-ft per year).

Extremes.--Maximum discharge during year, 524 cfs June 20 (gage height, 3.89 ft); minimum, 36 cfs Apr. 19.

1906-67: Maximum discharge since 1909, 1,980 cfs Dec. 23, 1964, from rating curve extended above 280 cfs on basis of slope-area measurement of peak flow; maximum gage height, about 8.75 ft (over top of gage) Nov. 22, 1909, site and datum then in use (discharge not determined); minimum discharge, 14 cfs Mar. 2, 1966.

Remarks.--Records good. No regulation. A canal near mouth of Pole Creek, a tributary above station, diverts entire flow of that creek for irrigation of lands near Sisters.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	54	48	76	48	55	50	46	38	152	257	111	86
2	55	47	62	50	55	50	43	38	146	260	106	86
3	52	46	60	48	54	46	43	40	146	266	104	86
4	51	45	56	51	52	46	43	42	164	254	104	86
5	51	47	56	50	51	50	43	45	170	242	102	86
6	51	47	58	52	50	47	43	48	176	227	97	86
7	51	45	58	52	48	46	45	50	188	209	92	86
8	50	43	58	50	47	46	45	60	191	209	88	85
9	48	50	66	46	47	47	45	70	191	203	90	85
10	47	51	67	46	46	48	46	75	188	203	90	80
11	47	62	61	46	46	46	46	70	188	203	90	85
12	47	90	78	46	46	48	46	70	182	209	95	85
13	42	80	118	51	46	48	46	70	179	203	97	80
14	45	140	92	47	54	46	45	70	191	185	95	70
15	46	111	78	48	55	43	43	80	215	170	95	65
16	45	82	74	46	56	47	43	90	224	161	97	60
17	45	70	70	47	58	46	43	100	250	155	99	60
18	43	66	68	48	56	45	43	120	280	143	102	60
19	43	80	66	43	55	45	40	135	350	137	111	60
20	45	90	64	45	54	45	42	150	404	132	104	70
21	42	70	62	45	54	45	42	160	348	129	99	70
22	72	64	60	42	51	51	41	170	293	129	90	70
23	80	61	58	43	51	56	40	182	260	132	88	70
24	67	66	56	43	50	50	40	161	257	135	86	65
25	60	60	56	42	50	47	40	146	266	135	82	60
26	58	60	56	51	48	47	39	140	281	126	80	60
27	54	56	56	64	48	46	39	146	290	118	80	60
28	48	58	55	76	48	46	38	176	269	113	84	62
29	47	56	54	68		46	38	173	269	116	86	65
30	52	70	52	66	- - - - -	46	38	152	266	118	86	70
31	48	- - - - -	51	66	- - - - -	46	- - - - -	129	- - - - -	113	86	- - - - -
Total	1,586	1,961	2,002	1,566	1,431	1,461	1,274	3,196	6,974	5,392	2,916	2,199
Mean	51.2	65.4	64.6	50.5	51.1	47.1	42.5	103	232	174	94.1	73.3
Max	80	140	118	76	58	56	46	182	404	266	111	86
Min	42	43	51	42	46	43	38	38	146	113	80	60
Ac-ft	3,150	3,890	3,970	3,110	2,840	2,900	2,530	6,340	13,830	10,690	5,780	4,360

Cal yr 1966: Total 31,677 Mean 86.7 Max 284 Min 23 Ac-ft 62,830
Wtr yr 1967: Total 31,958 Mean 87.6 Max 404 Min 38 Ac-ft 63,390

Peak discharge (base, 470 cfs).--June 20 (2000 hrs) 524 cfs (3.89 ft).

14-0765. Deschutes River near Culver, Oreg.

Location.--Lat 44°29'56", long 121°19'12", in NW¼SE¼ sec.29, T.12 S., R.12 E., on right bank 2.5 miles downstream from Squaw Creek, 6.0 miles southwest of Culver, and at mile 120.6.

Drainage area.--2,705 sq mi.

Records available.--July 1952 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,980 ft above mean sea level (river-profile survey). July 14, 1952, to Sept. 30, 1961, graphic water-stage recorder at site 4.1 miles downstream at different datum. Oct. 1, 1961, to Sept. 22, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--15 years, 906 cfs (655,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,400 cfs Jan. 31 (gage height, 4.16 ft); minimum, 468 cfs several days in August and September.

1952-67: Maximum discharge, 6,680 cfs Dec. 24, 1964 (gage height, 10.00 ft); minimum, 418 cfs July 7, 8, 1964.

Remarks.--Records excellent. Slight regulation by Crescent Lake and Crane Prairie and Wickiup Reservoirs. Many diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	503	833	1,010	1,090	1,300	774	634	491	515	526	477	479
2	562	1,060	1,010	932	1,250	809	742	493	508	516	477	475
3	561	1,050	1,180	896	1,240	840	729	490	522	515	476	479
4	563	1,050	1,250	852	1,150	960	584	508	584	525	476	482
5	561	1,050	1,110	860	1,000	1,080	561	498	534	521	475	476
6	513	1,060	1,020	984	732	876	544	490	512	509	475	482
7	508	1,070	1,020	1,080	651	840	582	489	508	501	477	482
8	508	1,070	964	1,080	634	864	537	490	496	485	475	481
9	509	1,060	1,060	1,070	644	904	543	494	498	483	474	480
10	511	1,080	1,140	1,140	648	1,050	532	496	488	484	474	480
11	512	1,080	1,140	1,150	864	1,130	519	495	495	485	473	488
12	511	1,090	1,140	1,130	1,060	1,120	542	497	494	491	471	490
13	502	1,080	1,150	1,130	1,060	1,120	558	495	493	490	473	491
14	495	1,130	1,160	1,150	1,060	1,100	531	495	492	487	499	493
15	499	1,230	1,180	1,150	1,110	1,080	509	495	491	489	486	490
16	502	1,260	1,200	1,150	1,090	1,090	495	514	507	486	474	488
17	507	1,230	1,180	1,180	1,100	1,100	499	530	530	488	475	488
18	509	1,240	1,160	1,180	1,110	1,120	522	493	576	489	479	489
19	511	1,280	1,130	1,170	1,110	1,140	568	486	630	491	474	488
20	519	1,320	1,130	1,220	1,110	908	569	488	759	492	474	487
21	520	1,320	1,100	1,210	1,120	791	544	489	1,020	493	474	482
22	523	1,290	1,160	1,150	1,100	774	513	486	741	501	471	481
23	545	1,280	1,170	1,150	1,100	739	514	496	613	574	473	482
24	551	1,290	1,150	1,150	1,110	728	516	530	561	541	472	482
25	538	1,260	1,160	1,170	1,110	746	509	527	555	501	471	482
26	519	1,140	1,080	1,160	1,070	725	509	514	552	490	473	481
27	531	1,080	900	1,170	948	721	506	502	598	483	474	482
28	612	1,020	884	1,200	795	676	501	504	586	480	476	484
29	595	868	852	1,190	------	662	492	508	554	478	479	484
30	585	940	837	1,080	------	665	494	535	529	480	476	485
31	568	------	968	1,140	------	630	------	516	------	479	478	------
TOTAL	16,453	33,811	33,595	34,364	28,276	27,762	16,398	15,534	16,941	15,453	14,751	14,513
MEAN	531	1,127	1,084	1,109	1,010	896	547	501	565	498	476	484
MAX	612	1,320	1,250	1,220	1,300	1,140	742	535	1,020	574	499	493
MIN	495	833	837	852	634	630	492	486	488	478	471	475
AC-FT	32,630	67,060	66,630	68,160	56,080	55,070	32,520	30,810	33,600	30,650	29,260	28,790

CAL YR 1966: TOTAL 318,640 MEAN 873 MAX 1,960 MIN 476 AC-FT 632,000
WAT YR 1967: TOTAL 267,851 MEAN 734 MAX 1,320 MIN 471 AC-FT 531,300

14-0780. Beaver Creek near Paulina, Oreg.

Location (revised).--Lat 44°09'50", long 119°55'20", in NE¼ sec.26, T.16 S., R.23 E., on right bank 0.7 mile downstream from Paulina Creek, 1.7 miles downstream from Wolf Creek, 2.7 miles northeast of Paulina, and at mile 10.0.

Drainage area.--450 sq mi, approximately.

Records available.--October 1942 to September 1967. Prior to October 1945 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Altitude of gage is 3,690 ft (by barometer). Oct. 1, 1942, to Mar. 18, 1965, graphic water-stage recorder and Mar. 19 to July 7, 1965, digital water-stage recorder at datum 1.00 ft higher.

Average discharge.--25 years, 89.3 cfs (64,650 acre-ft per year).

Extremes.--Maximum discharge during year, 1,220 cfs Jan. 29 (gage height, 6.04 ft); minimum, 0.34 cfs Aug. 1-4, 13, 14, 17, Sept. 30.

1942-67: Maximum discharge, 12,800 cfs Dec. 22, 1964 (gage height, 14.20 ft, from floodmark, present datum), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; no flow Oct. 13-29, 1945.

Remarks.--Records good. No regulation. Diversions for irrigation of about 6,400 acres above station. Two small ditches divert above station for irrigation of about 250 acres below.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	5.6	94	44	308	183	160	143	88	6.7	1.9	.54
2	.80	5.6	104	40	255	183	148	128	79	4.3	.44	.59
3	.80	5.6	86	44	223	132	139	113	73	3.1	.39	.59
4	.80	5.6	64	48	203	101	128	109	73	2.3	.39	.59
5	3.9	6.0	61	44	180	99	128	130	67	2.2	.44	.54
6	5.3	6.4	61	41	151	103	132	193	59	1.9	.44	.44
7	5.3	6.1	50	42	139	139	130	260	37	10	.44	.49
8	5.3	6.2	42	38	128	130	139	302	17	13	.44	.54
9	5.3	6.2	36	37	123	151	158	353	12	12	.44	.59
10	5.3	6.4	41	42	113	148	175	463	11	12	.44	.65
11	5.3	8.3	46	41	101	143	185	491	9.5	11	.44	.72
12	5.4	9.1	119	41	95	126	175	392	8.7	11	.44	.59
13	6.0	8.3	842	45	103	126	168	311	7.9	9.1	.39	.49
14	5.7	7.9	587	66	90	107	160	255	7.5	8.3	.39	.49
15	5.6	9.5	260	69	83	97	148	245	5.9	8.3	.39	.49
16	5.6	9.5	162	77	85	193	137	260	4.8	7.9	.44	.44
17	5.6	8.3	123	65	90	407	128	293	4.0	8.3	.44	.49
18	5.7	7.9	106	50	97	335	126	308	3.5	8.7	.44	.44
19	6.0	7.9	97	58	81	270	119	283	13	9.1	.44	.49
20	5.9	8.3	96	58	68	250	113	250	13	9.1	.44	.49
21	5.6	7.9	90	61	75	280	107	210	15	9.5	.44	.49
22	6.0	8.7	69	50	76	278	103	193	21	8.7	.44	.49
23	5.8	8.7	62	38	83	278	109	170	23	7.1	.49	.49
24	5.8	8.7	53	37	99	268	146	146	27	6.3	.44	.54
25	6.0	8.7	58	44	103	233	195	121	23	5.9	.49	.54
26	6.0	9.5	57	44	105	208	230	99	20	5.5	.49	.54
27	5.7	9.5	46	57	121	183	200	79	19	5.5	.54	.79
28	5.6	11	48	419	151	168	200	70	19	5.1	.49	1.2
29	5.6	80	52	1,060	------	178	165	75	15	4.8	.54	1.3
30	5.9	74	44	704	------	160	148	79	8.7	4.8	.54	.44
31	5.7	------	40	445	------	151	------	94	------	4.5	.54	------
TOTAL	154.10	371.4	3,696	3,949	3,529	5,808	4,499	6,618	784.5	226.0	15.45	17.51
MEAN	4.97	12.4	119	127	126	187	150	213	26.2	7.29	.50	.58
MAX	6.0	80	842	1,060	308	407	230	491	88	13	1.9	1.3
MIN	.80	5.6	36	37	68	97	103	70	3.5	1.9	.39	.44
AC-FT	306	737	7,330	7,830	7,000	11,520	8,920	13,130	1,560	448	31	35

CAL YR 1966: TOTAL 16,315.30 MEAN 44.7 MAX 842 MIN .30 AC-FT 32,360
WAT YR 1967: TOTAL 29,667.96 MEAN 81.3 MAX 1,060 MIN .39 AC-FT 58,850

Peak discharge (base, 700 cfs).--Dec. 13 (1930 hrs) 1,190 cfs (6.07 ft); Jan. 29 (1830 hrs) 1,220 cfs (6.04 ft).

14-0798. Crooked River above Prineville Reservoir, near Post, Oreg.

Location (revised).--Lat 44°10'40", long 120°35'00", in SW¼ sec.16, T.16 S., R.18 E., on right bank 2.8 miles downstream from Wickiup Creek, 5.1 miles west of Post, 15.8 miles southeast of Prineville, and at mile 91.0.

Drainage area.--2,400 sq mi, approximately, of which 500 sq mi is probably noncontributing.

Records available.--October 1960 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 3,248.91 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--7 years, 296 cfs (214,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,310 cfs Jan. 30 (gage height, 8.28 ft); minimum, 0.70 cfs Aug. 23-26.

1960-67: Maximum discharge, 19,700 cfs Dec. 23, 1964 (gage height, 15.00 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.20 cfs July 28 to Aug. 29, 1966.

Remarks.--Records excellent except those below 5.0 cfs, which are fair. No regulation. Many diversions for irrigation above station. Records given herein do not include water diverted 600 ft above station for irrigation below. The following discharge measurements, in cubic feet per second, were made of this diversion in the 1967 water year:

Nov. 17	0
May 4	7.1
June 12	0
Aug. 2	1.8

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.9	56	284	168	1,010	356	563	488	366	20	2.0	1.3
2	4.7	62	428	163	814	411	581	493	327	10	1.2	1.1
3	4.5	60	323	167	679	365	567	497	300	11	1.0	1.2
4	5.6	56	253	173	610	309	593	648	300	10	.95	1.3
5	5.3	56	229	164	562	277	642	789	260	6.0	.88	1.5
6	4.5	62	220	156	478	279	620	1,070	240	5.0	.88	1.7
7	4.4	71	202	155	430	334	664	1,530	200	15	.88	1.6
8	2.8	78	172	160	392	394	785	1,880	170	20	1.0	1.3
9	2.0	83	142	155	373	449	879	2,230	150	19	1.1	1.2
10	1.8	82	150	153	352	464	867	2,250	130	18	1.1	1.2
11	2.1	92	162	152	334	422	834	1,850	120	18	1.2	1.3
12	3.2	110	162	150	313	373	733	1,490	101	16	1.5	1.6
13	4.2	112	1,590	154	319	353	732	1,150	85	13	1.5	1.5
14	5.5	111	2,570	159	310	330	678	1,070	105	13	1.3	1.5
15	23	109	1,130	195	282	299	608	1,190	92	12	1.2	1.5
16	35	113	614	222	269	329	580	1,420	78	13	.95	1.5
17	34	122	446	215	270	1,100	537	1,610	80	14	.88	1.5
18	37	119	376	188	285	1,360	507	1,670	75	15	.86	1.6
19	36	101	334	189	287	999	468	1,480	150	16	.88	1.7
20	40	98	308	194	254	803	432	1,280	150	16	.95	1.8
21	46	135	294	195	225	980	410	1,130	180	16	.88	2.0
22	60	133	221	182	238	1,040	409	1,030	200	12	.82	2.1
23	61	118	189	151	252	1,180	462	908	220	10	.76	2.0
24	60	103	138	156	268	1,210	555	764	260	10	.70	1.8
25	58	99	195	176	281	941	584	635	200	10	.70	1.7
26	57	94	186	184	284	793	582	525	150	9.0	.76	1.7
27	54	97	180	185	285	704	585	434	130	9.0	1.0	1.8
28	50	99	170	486	315	675	590	394	140	8.0	1.2	2.1
29	55	150	182	2,430	------	647	534	394	70	7.0	1.5	2.4
30	57	210	171	2,660	------	575	458	394	30	6.0	3.0	4.2
31	57	------	170	1,500	------	518	------	406	------	5.0	2.3	------
TOTAL	876.5	2,991	12,251	11,737	10,771	19,269	18,039	33,099	5,059	382.0	35.65	50.7
MEAN	28.3	99.7	395	379	385	622	601	1,068	169	12.3	1.16	1.69
MAX	61	210	2,570	2,660	1,010	1,360	879	2,250	366	20	3.0	4.2
MIN	1.8	56	142	150	225	277	409	394	30	5.0	.70	1.1
CFSM	.01	.04	.16	.16	.16	.26	.25	.44	.07	.005	.0004	.0007
IN.	.01	.05	.19	.18	.17	.30	.28	.51	.08	.006	.0005	.0007
AC-FT	1,740	5,930	24,300	23,280	21,360	38,220	35,780	65,650	10,030	758	71	101

CAL YR 1966: TOTAL 72,593.30 MEAN 199 MAX 2,570 MIN .20 CFSM .08 IN 1.12 AC-FT 144,000
WAT YR 1967: TOTAL 114,561.05 MEAN 314 MAX 2,660 MIN .70 CFSM .13 IN 1.78 AC-FT 227,200

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-13	2400	8.22	3,240				
1-30	0630	8.28	3,310				
5- 9	0530	7.61	2,520				

Note.--No gage-height record June 17 to Aug. 2.

14-0804. Prineville Reservoir near Prineville, Oreg.

Location.--Lat 44°06'50", long 120°46'50", in SW¼NW¼ sec.11, T.17 S., R.16 E., at right end of Prineville Dam on Crooked River, 13.8 miles (revised) south of Prineville, and at mile 72.5.

Drainage area.--2,700 sq mi approximately, of which 500 sq mi is probably noncontributing.

Records available.--October 1960 to September 1967.

Gage.--Electric-contact gage read several times a month. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum contents observed during year, 156,900 acre-ft May 21 (elevation, 3,236.14 ft); minimum observed, 89,600 acre-ft Oct. 27 (elevation, 3,209.62 ft).

1960-67: Maximum contents observed, 165,800 acre-ft Dec. 27, 1964 (elevation, 3,238.95 ft); minimum observed, 71,640 acre-ft Mar. 16, 1962 (elevation, 3,200.25 ft).

Remarks.--Reservoir is formed by earth-fill dam with ungated concrete spillway and concrete outlet tunnel controlled by two 4-ft by 6-ft regulating gates. Storage began in December 1960. Total capacity at elevation 3,234.80 ft (crest of spillway) is 154,700 acre-ft, of which 152,800 acre-ft is active storage above 3,114.00 ft (proposed minimum pool). Reservoir used for flood control, irrigation, and recreation. Figures given herein represent active storage.

Cooperation.--Gage inspected and capacity table furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	g3,210.19	90,770	-
Oct. 31	3,209.69	89,740	-1,030
Nov. 30	3,210.82	92,080	+2,340
Dec. 31	3,210.81	92,060	-20
Calendar year 1966	-	-	-500
Jan. 31	3,214.58	100,100	+8,040
Feb. 28	3,212.71	96,070	-4,030
Mar. 31	g3,225.80	127,200	+31,130
Apr. 30	g3,232.80	146,800	+19,600
May 31	3,234.61	152,200	+5,400
June 30	g3,233.12	147,800	-4,400
July 31	g3,228.28	133,900	-13,900
Aug. 31	g3,222.45	118,600	-15,300
Sept. 30	3,216.80	105,100	-13,500
Water year 1966-67	-	-	+14,330

† Based on gage readings at various times during day.
g Elevation interpolated from gage readings near end of month.

14-0805. Crooked River near Prineville, Oreg.

Location.--Lat 44°06'50", long 120°47'40", in SW¼NE¼ sec.10, T.17 S., R.16 E., on right bank 0.4 mile downstream from Prineville Dam, 13.6 miles south of Prineville, and at mile 72.1.

Drainage area.--2,700 sq mi, approximately, of which 500 sq mi is probably noncontributing.

Records available.--November 1908 to September 1914, March 1941 to September 1967. Published as "near Prineville" 1908-12, as "at Hoffman's ranch, near Prineville" 1913-14, and as "above Hoffman Dam, near Prineville," March 1941 to September 1960. The estimate of monthly mean discharge for October 1908, published in WSP 370, has been found to be unreliable and should not be used.

Gage.--Digital water-stage recorder. Datum of gage is 3,070.85 ft above mean sea level (levels by Bureau of Reclamation). Prior to Jan. 1, 1913, staff gage at Stearn's ranch 8 miles downstream at different datum. January 1913 to September 1914, staff gage at Hoffman's ranch 3 miles downstream at different datum. Mar. 26, 1941, to Apr. 23, 1961, graphic water-stage recorder at site 6 miles downstream at different datum. Apr. 24, 1961, to Mar. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--24 years (1909-14, 1941-60), 378 cfs (273,700 acre-ft per year); 7 years (1961-67), 270 cfs (195,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,040 cfs May 10 (gage height, 6.71 ft); minimum, 36 cfs Oct. 1-10.

1908-14, 1941-67: Maximum discharge, 8,410 cfs Mar. 26, 1952 (gage height, 8.2 ft, from floodmark, site and datum then in use); no flow Aug. 13-21, 1959, Jan. 3-5, 1961.

Remarks.--Records good. Flow completely regulated by Prineville Reservoir since December 1960. Diversions for irrigation of over 20,000 acres above station. Discharge not adjusted for storage or release from Prineville Reservoir as evaporation from reservoir at times exceeds natural flow.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	50	95	179	1,870	67	203	491	229	219	264	231
2	46	50	95	179	1,850	67	203	470	229	219	263	230
3	46	50	95	179	1,660	67	203	470	229	219	260	228
4	46	50	96	179	1,110	67	203	267	229	221	260	227
5	46	50	95	179	470	68	203	354	213	221	260	227
6	46	50	95	179	470	68	203	614	202	221	258	225
7	46	50	95	179	469	68	203	614	203	220	258	225
8	47	50	95	179	470	68	203	1,000	203	221	255	223
9	47	50	95	180	476	69	203	1,790	204	221	255	223
10	47	50	121	158	481	69	205	2,010	205	230	255	223
11	47	50	175	115	480	69	205	1,980	205	262	252	221
12	53	49	175	115	421	69	205	1,840	205	263	250	208
13	52	49	175	115	307	69	205	1,560	205	262	250	200
14	52	49	576	115	307	69	205	878	207	262	248	199
15	52	49	1,230	115	307	70	282	880	207	263	248	199
16	52	49	1,610	115	307	70	425	893	207	263	248	199
17	51	48	1,640	115	307	70	424	1,110	208	261	245	200
18	51	48	1,630	115	307	70	425	1,250	211	262	244	200
19	51	48	1,360	116	236	71	383	1,270	211	263	243	199
20	52	48	662	150	66	71	162	1,280	211	263	241	199
21	52	48	446	179	66	71	211	1,280	213	264	241	199
22	52	48	323	179	66	72	211	1,260	213	263	239	199
23	51	48	188	179	66	113	211	1,250	213	258	239	200
24	51	48	188	179	66	198	330	1,160	215	231	239	199
25	51	77	188	179	66	201	438	866	215	231	235	201
26	51	95	188	179	67	201	438	856	215	231	235	201
27	51	95	188	179	67	201	438	810	215	230	235	201
28	51	95	188	220	67	201	438	593	217	231	233	201
29	51	95	188	437	------	202	481	594	217	231	233	201
30	50	95	188	1,180	------	202	523	523	217	237	233	201
31	50	------	184	1,860	------	202	------	228	------	265	231	------
TOTAL	1,537	1,731	12,667	7,906	12,902	3,240	8,672	30,441	6,373	7,508	7,650	6,289
MEAN	49.6	57.7	409	255	461	105	289	982	212	242	247	210
MAX	53	95	1,640	1,860	1,870	202	523	2,010	229	265	264	231
MIN	46	48	95	115	66	67	162	228	202	219	231	199
AC-FT	3,050	3,430	25,120	15,680	25,590	6,430	17,200	60,380	12,640	14,890	15,170	12,470

CAL YR 1966: TOTAL 73,336 MEAN 201 MAX 1,670 MIN 33 AC-FT 145,500
WAT YR 1967: TOTAL 106,916 MEAN 293 MAX 2,010 MIN 46 AC-FT 212,100

14-0874. Crooked River below Opal Springs, near Culver, Oreg.

Location.--Lat 44°29'33", long 121°17'50", in NW¼NE¼ sec.33, T.12 S., R.12 E., on right bank 0.2 mile downstream from Opal Springs, 4.8 miles southwest of Culver, and at mile 6.7.

Drainage area.--4,300 sq mi, approximately, of which 500 sq mi is probably noncontributing.

Records available.--October 1961 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,953.60 ft above mean sea level (Portland General Electric Co. bench mark). Prior to Sept. 21, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--6 years, 1,527 cfs (1,106,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,210 cfs Feb. 1 (gage height, 5.51 ft); minimum, 1,230 cfs Mar. 16, 18.

1961-67: Maximum discharge, 6,660 cfs Dec. 24, 1964 (gage height, 9.36 ft); minimum, 972 cfs July 29, 1964.

Remarks.--Records excellent except those for period of shifting control, which are good. Flow regulated by Prineville Reservoir (see sta. no. 0804) and Ochoco Reservoir (capacity, 47,500 acre-ft). Many diversions for irrigation above station. Practically all of the summer flow comes from Opal Springs and other springs within 15 miles above station. Simultaneous records (1961-63) at former gaging station 5.6 miles downstream indicated over 15 percent increase to summer flow from springs below this station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,390	1,360	1,380	1,400	3,190	1,260	1,460	1,750	1,460	1,420	1,290	1,430
2	1,390	1,340	1,390	1,380	3,180	1,280	1,450	1,710	1,440	1,410	1,330	1,430
3	1,360	1,320	1,380	1,400	3,160	1,300	1,460	1,690	1,540	1,390	1,350	1,440
4	1,360	1,310	1,380	1,400	2,940	1,300	1,480	1,640	1,620	1,360	1,330	1,440
5	1,350	1,320	1,380	1,420	2,780	1,280	1,470	1,460	1,500	1,350	1,310	1,450
6	1,360	1,320	1,390	1,400	1,810	1,250	1,460	1,480	1,360	1,340	1,300	1,470
7	1,330	1,320	1,390	1,380	1,840	1,290	1,480	1,740	1,320	1,330	1,310	1,480
8	1,340	1,320	1,380	1,360	1,840	1,280	1,490	1,740	1,320	1,310	1,330	1,490
9	1,350	1,310	1,380	1,360	1,850	1,280	1,450	2,250	1,300	1,320	1,340	1,490
10	1,350	1,320	1,360	1,360	1,850	1,280	1,440	3,030	1,320	1,320	1,340	1,480
11	1,360	1,320	1,360	1,360	1,830	1,250	1,440	3,180	1,300	1,320	1,360	1,490
12	1,360	1,330	1,440	1,300	1,770	1,240	1,420	3,150	1,310	1,350	1,370	1,500
13	1,390	1,320	1,450	1,300	1,680	1,240	1,420	2,970	1,320	1,340	1,370	1,490
14	1,400	1,310	1,500	1,300	1,570	1,240	1,420	2,560	1,330	1,320	1,370	1,480
15	1,410	1,320	1,890	1,300	1,560	1,240	1,420	2,060	1,340	1,310	1,380	1,470
16	1,400	1,340	2,590	1,300	1,550	1,240	1,480	2,070	1,330	1,320	1,370	1,470
17	1,400	1,320	2,880	1,300	1,550	1,240	1,650	2,070	1,320	1,320	1,360	1,470
18	1,390	1,310	2,910	1,300	1,540	1,240	1,710	2,320	1,320	1,310	1,370	1,460
19	1,400	1,310	2,910	1,300	1,540	1,240	1,710	2,380	1,330	1,310	1,400	1,470
20	1,410	1,320	2,500	1,300	1,500	1,270	1,620	2,380	1,460	1,330	1,390	1,480
21	1,430	1,320	1,880	1,340	1,290	1,340	1,380	2,390	1,540	1,300	1,380	1,470
22	1,430	1,310	1,670	1,380	1,270	1,360	1,440	2,390	1,540	1,300	1,380	1,470
23	1,410	1,300	1,570	1,360	1,260	1,360	1,450	2,390	1,550	1,300	1,390	1,470
24	1,420	1,300	1,420	1,380	1,260	1,380	1,460	2,360	1,510	1,300	1,400	1,460
25	1,420	1,300	1,420	1,360	1,260	1,500	1,580	2,210	1,470	1,280	1,420	1,460
26	1,400	1,300	1,400	1,380	1,250	1,500	1,700	1,990	1,460	1,270	1,430	1,440
27	1,410	1,340	1,400	1,380	1,250	1,460	1,710	1,960	1,440	1,270	1,450	1,440
28	1,400	1,350	1,400	1,500	1,250	1,400	1,720	1,890	1,460	1,250	1,470	1,430
29	1,400	1,360	1,400	1,930	------	1,400	1,710	1,730	1,450	1,250	1,470	1,420
30	1,400	1,360	1,420	2,050	------	1,400	1,740	1,730	1,440	1,260	1,490	1,410
31	1,380	------	1,420	2,710	------	1,420	------	1,700	------	1,270	1,440	------
TOTAL	43,000	39,680	51,640	44,690	50,120	40,760	45,820	66,370	42,400	40,830	42,690	43,850
MEAN	1,387	1,323	1,666	1,442	1,790	1,315	1,527	2,141	1,413	1,317	1,377	1,462
MAX	1,430	1,360	2,910	2,710	3,190	1,500	1,740	3,180	1,620	1,420	1,490	1,500
MIN	1,330	1,300	1,360	1,300	1,250	1,240	1,380	1,460	1,300	1,250	1,290	1,410
AC-FT	85,290	78,700	102,400	88,640	99,410	80,850	90,880	131,600	84,100	80,990	84,670	86,980

CAL YR 1966: TOTAL 518,800 MEAN 1,421 MAX 2,980 MIN 1,160 AC-FT 1,029,000
WAT YR 1967: TOTAL 551,850 MEAN 1,512 MAX 3,190 MIN 1,240 AC-FT 1,095,000

Note.--Shifting control Dec. 20 to May 10.

14-0880. Lake Creek near Sisters, Oreg.

Location.--Lat 44°25'35", long 121°43'30", in NE¼SW¼ sec.24, T.13 S., R.8 E., on left bank 300 ft downstream from Suttle Lake and 13 miles northwest of Sisters. Prior to Aug. 14, 1967, at site 600 ft downstream.

Drainage area.--22.2 sq mi.

Records available.--June to November 1911, March to September 1912, May to October 1913, April 1915 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 3,431.68 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 1, 1911, to Oct. 31, 1913, and Apr. 1, 1915, to Mar. 31, 1916, staff gage at two sites 400 ft upstream at different datums. Apr. 1, 1916, to Oct. 12, 1928, staff gage or water-stage recorder at site 640 ft downstream at different datum Oct. 13, 1928 to Aug. 13, 1967. Water-stage recorder at site 600 ft downstream at datum 1.61 ft lower.

Average discharge.--52 years (1915-67), 52.0 cfs (37,650 acre-ft per year).

Extremes.--Maximum discharge during year, 96 cfs June 1 (gage height, 1.90 ft); minimum, 24 cfs Aug. 20, 21.

1911-13, 1915-67: Maximum discharge not determined, Dec. 23, 1964; maximum daily discharge, 500 cfs Dec. 23, 1964; minimum discharge, 1.0 cfs Nov. 4, 5, 1940; minimum daily, 8 cfs Nov. 5, 1940, Oct. 6, 1942.

Remarks.--Records good. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	35	42	44	92	53	48	40	96	46	30	26
2	31	33	40	43	90	54	36	40	92	42	30	26
3	31	31	39	47	84	50	41	41	87	38	30	26
4	30	31	44	47	80	49	45	41	84	38	29	27
5	30	35	49	47	75	49	46	40	82	39	29	27
6	30	44	45	48	72	48	46	42	78	39	29	27
7	30	37	53	46	70	48	46	42	80	39	29	28
8	30	34	50	44	68	49	46	43	77	38	29	28
9	30	33	44	44	65	50	44	46	79	37	29	26
10	30	33	49	44	65	53	46	47	76	37	30	28
11	31	40	45	46	65	49	46	49	76	37	31	33
12	33	44	49	49	64	47	44	52	74	37	30	30
13	34	42	50	49	65	49	48	52	73	36	29	28
14	32	49	51	44	64	48	47	53	71	34	29	28
15	31	57	53	49	64	46	46	53	67	36	28	28
16	32	54	55	49	62	47	45	53	66	35	28	29
17	31	45	55	49	63	47	46	54	63	35	28	28
18	31	44	54	49	60	49	47	56	62	34	28	26
19	31	44	53	56	56	46	49	58	62	31	28	28
20	40	46	52	70	56	49	44	60	71	32	28	28
21	44	44	51	68	56	49	45	68	62	33	26	28
22	47	42	49	60	55	49	46	76	62	35	26	26
23	45	41	49	56	53	60	44	90	61	37	28	26
24	37	41	48	55	53	56	42	86	61	36	28	27
25	36	43	51	56	52	52	42	82	59	32	28	26
26	37	42	47	64	50	51	42	80	56	31	28	26
27	38	39	46	68	50	48	42	80	52	29	28	28
28	34	39	46	71	51	44	42	80	51	30	28	28
29	30	39	44	77		47	42	80	51	31	28	28
30	29	39	45	83	- - - - -	50	41	85	48	30	28	31
31	31	- - - - -	44	92	- - - - -	50	- - - - -	90	- - - - -	30	28	- - - - -
Total	1,036	1,220	1,492	1,714	1,800	1,536	1,334	1,859	2,079	1,094	885	829
Mean	33.4	40.7	48.1	55.3	64.3	49.5	44.5	60.0	69.3	35.3	28.5	27.6
Max	47	57	55	92	92	60	49	90	96	46	31	33
Min	29	31	39	43	50	44	36	40	48	29	26	26
Ac-ft	2,050	2,420	2,960	3,400	3,570	3,050	2,650	3,690	4,120	2,170	1,760	1,640

Cal yr 1966: Total 17,124 Mean 46.9 Max 105 Min 29 Ac-ft 33,960
Wtr yr 1967: Total 16,878 Mean 46.2 Max 96 Min 26 Ac-ft 33,480

14-0915. Metolius River near Grandview, Oreg.

Location.--Lat 44°37'33", long 121°28'55", in SE¼SW¼ sec.12, T.11 S., R.10 E., on right bank 1.0 mile upstream from maximum controlled pool of Lake Billy Chinook, 9.0 miles northwest of Grandview, 15.0 miles northwest of Culver, and at mile 13.6.

Drainage area.--316 sq mi, at cableway 1.0 mile downstream, where all discharge measurements are made. Hydrologic drainage boundary uncertain owing to ground-water exchange.

Records available.--April 1910 to February 1912 (gage heights and discharge measurements only), March 1912 to December 1913, October 1921 to September 1967. Published as "at Hubbard's ranch, near Sisters" 1910, and as "at Hubbard's ranch, near Grandview" 1910-13.

Gage.--Digital water-stage recorder. Datum of gage is 1,974.36 ft above mean sea level (from levels by Portland General Electric Co.). Prior to Dec. 31, 1913, staff gage at site 2.3 miles upstream at different datum. Oct. 1, 1921, to May 3, 1949, staff gage and May 4, 1949, to June 18, 1963, graphic water-stage recorder, at site 2.7 miles downstream at datum 64 ft lower. June 19, 1963, to Sept. 20, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--47 years (1912-13, 1921-67), 1,481 cfs (1,072,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,900 cfs Jan. 29 (gage height, 2.09 ft); minimum, 1,280 cfs Sept. 26.

1912-13, 1921-67: Maximum discharge, 7,530 cfs Dec. 24, 1964 (gage height, 6.81 ft); minimum, 1,080 cfs Feb. 17, 1932, Oct. 2-31, Nov. 6, 7, 10-14, 1942.

Remarks.--Records excellent. No regulation. Many small diversions for irrigation of about 670 acres above station. Stream is spring fed. Records herein are for measuring site. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,340	1,330	1,420	1,380	1,700	1,430	1,390	1,320	1,550	1,550	1,390	1,350
2	1,350	1,330	1,380	1,360	1,660	1,430	1,380	1,320	1,570	1,540	1,380	1,350
3	1,340	1,330	1,370	1,390	1,630	1,420	1,370	1,330	1,550	1,560	1,380	1,340
4	1,330	1,320	1,410	1,400	1,610	1,410	1,380	1,330	1,570	1,550	1,370	1,350
5	1,340	1,330	1,400	1,390	1,590	1,410	1,370	1,330	1,570	1,540	1,370	1,350
6	1,330	1,350	1,390	1,380	1,570	1,400	1,370	1,340	1,560	1,520	1,370	1,330
7	1,330	1,330	1,400	1,370	1,550	1,400	1,370	1,350	1,590	1,500	1,360	1,330
8	1,330	1,320	1,380	1,360	1,540	1,400	1,370	1,390	1,590	1,490	1,360	1,330
9	1,320	1,320	1,370	1,360	1,530	1,410	1,360	1,420	1,570	1,480	1,360	1,320
10	1,320	1,340	1,400	1,350	1,520	1,420	1,360	1,410	1,560	1,470	1,370	1,320
11	1,330	1,410	1,410	1,380	1,510	1,400	1,360	1,390	1,540	1,470	1,360	1,360
12	1,340	1,520	1,500	1,380	1,510	1,390	1,360	1,380	1,540	1,480	1,370	1,320
13	1,330	1,410	1,680	1,430	1,520	1,400	1,360	1,380	1,540	1,490	1,370	1,300
14	1,320	1,580	1,600	1,430	1,500	1,390	1,360	1,380	1,530	1,460	1,370	1,300
15	1,320	1,540	1,520	1,450	1,500	1,390	1,350	1,400	1,550	1,440	1,360	1,310
16	1,320	1,490	1,500	1,450	1,490	1,390	1,360	1,430	1,580	1,440	1,360	1,310
17	1,320	1,420	1,470	1,430	1,490	1,390	1,360	1,480	1,610	1,440	1,370	1,310
18	1,310	1,390	1,460	1,420	1,500	1,390	1,370	1,500	1,630	1,420	1,370	1,320
19	1,320	1,410	1,450	1,450	1,480	1,390	1,350	1,500	1,640	1,420	1,360	1,320
20	1,380	1,460	1,450	1,540	1,460	1,400	1,350	1,530	1,770	1,410	1,370	1,320
21	1,350	1,410	1,440	1,510	1,460	1,390	1,350	1,570	1,720	1,410	1,350	1,320
22	1,420	1,380	1,420	1,480	1,450	1,400	1,350	1,630	1,700	1,410	1,340	1,320
23	1,410	1,360	1,420	1,460	1,450	1,440	1,340	1,640	1,620	1,410	1,340	1,300
24	1,370	1,350	1,410	1,450	1,450	1,420	1,340	1,610	1,590	1,420	1,340	1,310
25	1,350	1,370	1,420	1,440	1,440	1,410	1,330	1,570	1,590	1,420	1,330	1,310
26	1,370	1,380	1,400	1,510	1,430	1,400	1,330	1,560	1,610	1,410	1,330	1,300
27	1,370	1,360	1,390	1,700	1,430	1,400	1,330	1,560	1,640	1,390	1,340	1,300
28	1,340	1,360	1,380	1,870	1,430	1,390	1,330	1,610	1,600	1,390	1,350	1,310
29	1,330	1,350	1,380	1,880	------	1,390	1,330	1,630	1,590	1,400	1,350	1,320
30	1,340	1,370	1,370	1,830	------	1,400	1,320	1,580	1,570	1,290	1,350	1,330
31	1,330	------	1,370	1,760	------	1,400	------	1,550	------	1,390	1,350	------
TOTAL	41,600	41,620	44,360	45,990	42,400	43,500	40,650	45,420	47,840	45,120	42,140	39,660
MEAN	1,342	1,387	1,431	1,484	1,514	1,403	1,355	1,465	1,595	1,456	1,359	1,322
MAX	1,420	1,580	1,680	1,880	1,700	1,440	1,390	1,640	1,770	1,560	1,390	1,360
MIN	1,310	1,320	1,370	1,350	1,430	1,390	1,320	1,320	1,530	1,390	1,330	1,300
AC-FT	82,510	82,550	87,990	91,220	84,100	86,280	80,630	90,090	94,890	89,510	83,580	78,660

CAL YR 1966: TOTAL 532,310 MEAN 1,458 MAX 1,800 MIN 1,310 AC-FT 1,056,000
WAT YR 1967: TOTAL 520,310 MEAN 1,426 MAX 1,880 MIN 1,300 AC-FT 1,032,000

14-0921. Lake Billy Chinook near Metolius, Oreg.

Location (revised).--Lat 44°36'14", long 121°16'40", in SW¼NE¼ sec.22, T.11 S., R.12 E., near left end of Round Butte Dam on Deschutes River, 5 miles west of Metolius, and at mile 110.6.

Drainage area.--7,490 sq mi, approximately.

Records available.--January 1964 to September 1967.

Gage.--Staff gage read several times a month. Datum of gage is at mean sea level (levels by Portland General Electric Co.).

Extremes.--Maximum contents observed during year, 534,500 acre-ft Dec. 17 (elevation, 1,944.94 ft); minimum contents observed, 507,200 acre-ft Mar. 18 (elevation, 1,937.87 ft).

1964-67: Maximum contents, 535,100 acre-ft May 29, 1965 (elevation, 1,945.1 ft); minimum observed since first filling, 495,400 acre-ft Feb. 28, 1966 (elevation, 1,934.78 ft).

Remarks.--Reservoir is formed by rockfill dam completed in June 1964 by Portland General Electric Co; storage began Jan. 2, 1964. Total capacity is 534,700 acre-ft and usable capacity is 273,900 acre-ft between elevations 1,860.0 ft (proposed lower limit of operation) and 1,945.0 ft (proposed upper limit of operation). Reservoir used for power generation under FPC license 2030. Figures given herein represent total contents.

Cooperation.--Gage readings and capacity table furnished by Portland General Electric Co.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,944.38	532,300	-
Oct. 31	1,944.76	533,800	+1,500
Nov. 30	1,944.10	531,200	-2,600
Dec. 31	1,943.02	526,900	-4,300
Calendar year 1966	-	-	+4,300
Jan. 31	1,944.25	531,800	+4,900
Feb. 28	1,942.99	526,800	-5,000
Mar. 31	1,939.81	514,600	-12,200
Apr. 30	1,942.10	523,300	+8,700
May 31	1,944.23	531,700	+8,400
June 30	1,944.37	532,200	+500
July 31	1,944.27	531,800	-400
Aug. 31	1,944.38	532,300	+500
Sept. 30	1,944.70	533,500	+1,200
Water year 1966-67	-	-	+1,200

† Elevation at 2400 hrs.

14-0925. Deschutes River near Madras, Oreg.

Location (revised).--Lat 44°43'34", long 121°14'45", in SE¼SW¼ sec.1, T.10 S., R.12 E., on right bank 400 ft downstream from reregulating dam, 2.7 miles downstream from Pelton Dam, 8.5 miles northwest of Madras, and at mile 100.1.

Drainage area.--7,820 sq mi, approximately.

Records available.--October 1923 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,390.25 ft above mean sea level (levels by Portland General Electric Co.). Prior to May 6, 1924, staff gage and May 6, 1924 to June 14, 1933, graphic water-stage recorder, at site 2.5 miles upstream at different datum. June 15, 1933, to Nov. 30, 1956, graphic water-stage recorder and Dec. 1, 1956 to Nov. 22, 1957, staff gage, at site 1.5 miles upstream at different datum. Nov. 23, 1957 to Sept. 19, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--44 years, 4,420 cfs (3,200,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,250 cfs Dec. 21 (gage height, 4.09 ft); minimum, 2,890 cfs Oct. 25, 27.

1923-67: Maximum discharge, 15,800 cfs Dec. 28, 1964 (gage height, 6.29 ft); maximum gage height, 6.89 ft Jan. 1, 1943, site and datum then in use; minimum discharge, 1,200 cfs Dec. 13, 1957.

Remarks.--Records excellent. Diurnal fluctuation caused by Lake Simtustus and reregulating reservoir since 1957 (combined capacity for normal operation, 6,500 acre-ft). Some winter and spring runoff stored in Ochoco Reservoir (capacity, 47,500 acre-ft), in Crescent Lake, Crane Prairie and Wickiup Reservoirs (combined capacity, 354,600 acre-ft) and since 1960, in Prineville Reservoir (capacity, 152,800 acre-ft) and since 1964, in Lake Billy Chinook (capacity, 534,700 acre-ft). Large diversions in upper basin for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3,810	3,750	4,380	3,860	6,150	4,150	3,840	3,480	4,250	4,080	3,750	3,880
2	3,720	3,720	4,550	3,750	6,750	3,980	3,480	3,590	4,080	3,980	3,720	3,800
3	3,860	3,880	4,130	3,700	6,750	4,680	3,480	3,720	3,980	3,930	3,770	3,840
4	3,700	4,300	4,080	3,630	6,650	4,650	3,450	3,720	3,960	3,930	3,750	3,880
5	3,630	4,910	4,530	4,030	6,270	4,100	3,480	3,770	3,960	3,960	3,720	3,880
6	3,630	5,560	4,580	4,330	5,820	4,450	3,500	3,930	4,050	3,930	3,700	3,790
7	3,630	5,790	4,480	4,450	5,470	4,500	3,500	3,810	4,030	3,910	3,680	3,650
8	3,720	5,970	4,860	5,100	4,890	4,350	3,500	3,840	3,980	3,810	3,700	3,700
9	3,750	5,160	5,020	5,100	4,680	5,020	3,500	3,960	3,860	3,840	3,810	3,700
10	3,650	4,400	4,250	4,970	4,530	5,100	3,500	4,280	3,840	3,790	4,080	3,700
11	3,700	3,700	4,230	4,530	4,350	5,470	3,480	5,050	3,840	3,750	3,930	3,810
12	3,810	3,160	4,230	4,250	4,350	5,970	3,790	5,380	3,840	3,700	3,790	3,860
13	4,450	3,240	4,230	3,700	4,630	5,970	4,550	5,350	3,840	3,770	3,700	3,860
14	5,270	3,930	4,250	3,220	4,830	5,760	5,440	5,240	3,880	3,810	3,790	3,880
15	5,210	4,430	4,230	3,020	5,050	5,020	5,820	5,000	3,860	3,860	3,810	3,880
16	4,550	4,600	4,500	3,560	5,000	4,860	5,820	4,580	3,860	3,810	3,860	3,750
17	4,500	4,430	5,190	4,300	4,600	4,890	5,270	4,300	3,840	3,840	3,860	3,650
18	4,580	4,200	5,820	4,780	3,980	4,860	4,480	4,350	3,840	3,860	3,770	3,720
19	3,960	4,280	6,210	5,080	3,980	4,830	3,930	4,350	4,000	3,810	3,700	3,750
20	3,500	4,500	6,910	5,080	4,150	4,760	3,700	4,550	4,300	3,840	3,630	3,810
21	3,370	4,780	6,780	5,100	3,930	4,430	3,700	4,810	4,700	3,840	3,770	3,880
22	3,500	4,700	5,880	5,530	4,500	4,150	3,700	4,860	5,130	3,840	3,840	3,860
23	3,060	4,630	5,210	5,970	5,080	3,540	3,700	4,810	4,810	3,840	3,750	3,860
24	3,020	4,380	4,700	5,760	5,240	3,520	3,630	4,780	4,450	3,880	3,630	3,880
25	3,000	4,480	4,730	5,210	5,270	3,500	3,500	4,810	4,330	3,880	3,630	3,880
26	3,020	4,330	4,760	4,910	5,100	3,500	3,500	4,780	4,080	3,840	3,610	3,810
27	3,100	3,630	4,300	4,550	4,500	3,500	3,480	4,760	4,030	3,860	3,610	3,750
28	3,540	3,720	4,030	4,450	4,530	3,500	3,450	4,580	3,960	3,790	3,650	3,720
29	3,810	4,050	3,910	4,450	------	3,480	3,500	4,480	4,030	3,650	3,680	3,750
30	3,860	4,080	3,840	4,890	------	3,450	3,450	4,450	4,100	3,630	3,790	3,750
31	3,770	------	3,840	5,410	------	3,680	------	4,480	------	3,680	3,810	------
TOTAL	117,730	130,690	146,640	140,670	141,030	137,620	117,120	137,850	122,710	118,940	116,290	113,990
MEAN	3,798	4,356	4,730	4,538	5,037	4,439	3,904	4,447	4,090	3,837	3,751	3,800
MAX	5,270	5,970	6,910	5,970	6,750	5,970	5,820	5,380	5,130	4,080	4,080	3,880
MIN	3,000	3,160	3,840	3,020	3,930	3,450	3,450	3,480	3,840	3,630	3,610	3,650
AC-FT	233,500	259,200	290,900	279,000	279,700	273,000	232,300	273,400	243,400	235,900	230,700	226,100

CAL YR 1966: TOTAL 1,563,380 MEAN 4,283 MAX 6,910 MIN 3,000 AC-FT 3,101,000
WAT YR 1967: TOTAL 1,541,280 MEAN 4,223 MAX 6,910 MIN 3,000 AC-FT 3,057,000

14-0986. Clear Creek near Pine Grove, Oreg.

Location.--Lat 45°08'50", long 121°34'30", in SW¼ sec.8, T.5 S., R.10 E., on left bank 400 ft downstream from Frog Creek and 9.5 miles northwest of Pine Grove.

Drainage area.--38.3 sq mi.

Records available.--June to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 2,950 ft (from topographic map).

Extremes.--Maximum discharge during period June to September, 49 cfs July 5 (gage height, 2.32 ft); minimum, 14 cfs Sept. 6, 7, 21-29.

Remarks.--Records good. Some regulation by Clear Lake. Large diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1										26	17	15
2										27	17	15
3										32	17	15
4										44	17	15
5										48	17	15
6										37	17	14
7										31	16	15
8										27	16	15
9										25	16	15
10										24	16	15
11										25	16	19
12										26	15	17
13										27	15	15
14										27	16	15
15										26	16	15
16										26	15	15
17										27	15	15
18										30	15	15
19										30	15	15
20										30	15	15
21										29	15	14
22										28	15	14
23									27	27	15	14
24									27	24	15	14
25									27	22	15	14
26									27	20	15	14
27									26	19	15	14
28									26	19	15	14
29					------				26	18	15	17
30					------				26	18	15	19
31		------			------		------		------	18	15	------
TOTAL										837	484	453
MEAN										27.0	15.6	15.1
MAX										48	17	19
MIN										18	15	14
AC-FT										1,660	960	899

14-1015. White River below Tygh Valley, Oreg.

Location.--Lat 45°14'30", long 121°05'38", in NE¼NE¼ sec.7, T.4 S., R.14 E., on left bank 200 ft downstream from Pacific Power & Light Co. powerplant at White River Falls, 4 miles east of town of Tygh Valley, and at mile 2.0.

Drainage area.--368 sq mi.

Records available.--October 1917 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 870.15 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Pacific Power & Light Co.). Prior to July 28, 1931, graphic water-stage recorder at site 750 ft downstream at different datum. July 28, 1931, to Sept. 30, 1954, graphic water-stage recorder at site 700 ft downstream at different datums. Oct. 1, 1954 to Mar. 25, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--50 years, 428 cfs (309,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,380 cfs Jan. 29 (gage height, 4.18 ft); minimum, 65 cfs Aug. 2.

1917-67: Maximum discharge, 13,300 cfs Jan. 6, 1923 (gage height, about 13.3 ft, site and datum then in use), from rating curve extended above 5,000 cfs; minimum, 7.5 cfs Aug. 31, 1961; minimum daily, 71 cfs Aug. 31, 1941.

Remarks.--Records excellent. Powerplant 200 feet upstream maintained in standby service since termination of operation on Jan. 10, 1963. Diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	119	149	290	308	922	352	324	269	455	196	115	97
2	123	144	286	300	792	352	320	268	510	193	115	96
3	121	139	258	352	708	340	312	279	475	187	115	99
4	123	137	262	400	648	328	312	304	470	185	113	96
5	117	137	276	384	612	324	308	320	465	187	111	96
6	115	167	255	356	565	324	300	340	460	182	111	92
7	117	157	258	336	535	316	297	380	450	173	113	90
8	115	154	245	324	505	320	304	430	445	167	111	90
9	117	152	234	316	485	324	304	470	430	165	113	90
10	113	196	238	304	470	324	308	460	404	162	113	90
11	115	205	272	320	445	308	312	404	388	160	119	101
12	115	340	372	328	435	293	316	380	368	154	119	107
13	123	304	672	425	455	304	312	372	352	149	128	97
14	119	445	660	606	440	293	312	384	344	147	126	96
15	119	420	505	618	420	279	290	408	340	144	119	94
16	119	396	440	678	408	286	283	450	340	144	115	92
17	121	336	404	545	455	290	286	545	336	137	111	90
18	123	283	384	490	520	286	320	600	332	139	109	88
19	121	269	380	465	470	276	312	588	324	139	107	88
20	142	304	384	550	430	276	290	642	316	139	105	90
21	176	290	368	505	416	283	283	726	304	137	105	88
22	196	255	348	445	400	293	279	792	304	139	101	88
23	293	234	328	408	392	332	279	768	279	137	103	87
24	265	225	316	388	388	336	286	714	262	133	101	85
25	215	234	328	372	380	324	290	624	258	128	99	85
26	199	344	304	384	360	332	286	540	255	123	99	80
27	199	276	286	756	348	324	286	515	251	121	99	79
28	176	258	276	1,200	344	308	283	520	234	117	101	82
29	162	255	297	1,290	------	297	272	535	221	117	101	83
30	162	248	304	1,270	------	297	269	515	209	117	99	90
31	157	------	279	1,090	------	320	------	480	------	115	99	------
TOTAL	4,597	7,453	10,509	16,513	13,748	9,641	8,935	15,022	10,581	4,633	3,395	2,726
MEAN	148	248	339	533	491	311	298	485	353	149	110	90.9
MAX	293	445	672	1,290	922	352	324	792	510	196	128	107
MIN	113	137	234	300	344	276	269	268	209	115	99	79
AC-FT	9,120	14,780	20,840	32,750	27,270	19,120	17,720	29,800	20,990	9,190	6,730	5,410

CAL YR 1966: TOTAL 111,211 MEAN 305 MAX 1,140 MIN 103 AC-FT 220,600
WAT YR 1967: TOTAL 107,753 MEAN 295 MAX 1,290 MIN 79 AC-FT 213,700

Peak discharge (base, 1,200 cfs).--Jan. 29 (2400 hrs) 1,380 cfs (4.18 ft).

14-1030. Deschutes River at Moody, near Biggs, Oreg.

Location.--Lat 45°37'20", long 120°54'05", in SE¼ sec.26, T.2 N., R.15 E., on right bank at Moody, 4 miles southwest of Biggs, and at mile 1.4.

Drainage area.--10,500 sq mi, approximately.

Records available.--October 1897 to December 1899 (published as "near Moro"), July 1906 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 167.54 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 19, 1897, to Dec. 31, 1899, staff gage at site 10 miles upstream at different datum. July 22, 1906, to July 18, 1930, staff gage at site 300 ft downstream at datum 0.5 ft lower. July 19, 1930 to Apr. 5, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--63 years, 5,812 cfs (4,208,000 acre-ft per year).

Extremes.--Maximum discharge during year, 9,130 cfs Jan. 28 (gage height, 3.87 ft); minimum, 3,270 cfs Oct. 26, 27.

1897-99, 1906-67: Maximum discharge, 75,500 cfs Dec. 22, 1964 (gage height, 11.80 ft), from rating curve extended above 47,000 cfs by logarithmic plotting; minimum, 2,400 cfs Dec. 5, 1957.

Remarks.--Records excellent. Some fluctuation caused by regulation at Lake Simtustus since 1957. Some winter and spring runoff stored in Ochoco Reservoir (capacity, 47,500 acre-ft), in Crescent Lake, Crane Prairie and Wickiup Reservoirs (combined capacity, 354,600 acre-ft, and since 1960, in Prineville Reservoir (see sta. no. 0804), and since 1964 in Lake Billy Chinook (see sta. no. 0921). Large diversions in upper river basin for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,290	4,220	4,910	4,640	8,260	5,310	4,670	4,190	5,640	4,710	4,080	4,170
2	4,160	4,100	5,460	4,730	8,840	4,970	4,620	4,210	5,410	4,680	4,130	4,230
3	4,120	4,140	5,310	4,450	8,790	5,080	4,310	4,370	5,190	4,550	4,090	4,220
4	4,260	4,350	4,920	4,660	8,580	5,610	4,270	4,490	5,090	4,540	4,100	4,190
5	3,990	4,920	4,920	4,650	8,300	5,280	4,270	4,510	5,050	4,520	4,110	4,240
6	3,990	5,660	5,600	5,200	7,690	4,910	4,260	4,630	5,030	4,530	4,070	4,240
7	3,980	6,060	5,310	5,220	7,380	5,430	4,260	4,800	5,150	4,470	4,050	4,090
8	4,000	6,440	5,250	5,530	6,660	5,230	4,260	4,650	5,050	4,390	4,050	3,970
9	4,080	6,330	5,820	5,980	6,210	5,310	4,230	4,960	5,010	4,330	4,050	4,000
10	4,100	5,400	5,560	5,930	6,050	6,000	4,270	5,150	4,840	4,320	4,280	4,020
11	3,970	4,730	5,100	5,640	5,680	5,980	4,280	5,690	4,780	4,300	4,370	4,130
12	4,080	4,050	5,720	5,380	5,580	6,580	4,280	6,390	4,760	4,170	4,310	4,220
13	4,290	3,700	6,580	5,040	5,560	6,830	4,790	6,500	4,720	4,140	4,070	4,270
14	5,100	4,110	6,520	4,640	6,030	6,800	5,610	6,420	4,720	4,250	4,030	4,260
15	5,980	5,130	5,940	4,290	6,050	6,350	6,520	6,290	4,730	4,280	4,150	4,220
16	5,420	5,510	5,590	4,330	6,300	5,820	6,650	6,110	4,730	4,270	4,140	4,230
17	4,920	5,480	5,880	4,990	6,030	5,720	6,660	5,610	4,680	4,250	4,210	4,040
18	4,940	5,080	6,660	5,530	5,610	5,730	5,970	5,710	4,660	4,270	4,150	3,970
19	4,900	4,890	6,950	6,170	5,150	5,650	5,220	5,780	4,670	4,290	4,050	4,080
20	4,280	5,270	7,520	6,360	5,040	5,630	4,640	5,860	4,910	4,240	3,940	4,070
21	3,800	5,650	8,030	6,600	5,230	5,510	4,500	6,200	5,400	4,280	3,900	4,200
22	3,980	5,470	7,460	6,550	4,980	5,170	4,480	6,510	5,810	4,290	4,110	4,230
23	3,960	5,430	6,570	7,030	5,720	4,830	4,450	6,600	6,120	4,250	4,150	4,200
24	3,510	5,170	5,960	7,070	6,240	4,440	4,510	6,490	5,450	4,290	3,980	4,210
25	3,410	4,980	5,730	6,670	6,250	4,390	4,350	6,400	5,200	4,280	3,930	4,220
26	3,360	5,260	5,610	6,200	6,260	4,380	4,270	6,200	4,970	4,310	3,900	4,220
27	3,330	4,790	5,960	6,820	5,770	4,350	4,280	6,140	4,820	4,230	3,920	4,110
28	3,460	4,100	4,880	8,450	5,480	4,330	4,230	6,070	4,710	4,250	3,930	4,070
29	4,060	4,600	4,800	8,660	------	4,320	4,230	5,920	4,610	4,160	3,980	4,070
30	4,280	4,870	4,750	8,220	------	4,280	4,220	5,810	4,730	4,010	4,010	4,110
31	4,210	------	4,660	8,250	------	4,320	------	5,720	------	3,970	4,140	------
TOTAL	130,110	149,890	179,530	183,880	179,720	164,540	141,560	174,380	150,640	133,660	126,380	124,500
MEAN	4,197	4,996	5,791	5,932	6,419	5,308	4,719	5,625	5,021	4,318	4,077	4,150
MAX	5,980	6,440	8,030	8,660	8,840	6,830	6,660	6,600	6,120	4,710	4,370	4,270
MIN	3,330	3,700	4,660	4,290	4,980	4,280	4,220	4,190	4,610	3,970	3,900	3,970
AC-FT	258,100	297,300	356,100	364,700	356,500	326,400	280,800	345,900	298,800	265,000	250,700	246,900

CAL YR 1966: TOTAL 1,883,610 MEAN 5,161 MAX 11,300 MIN 3,330 AC-FT 3,736,000
WAT YR 1967: TOTAL 1,838,990 MEAN 5,038 MAX 8,840 MIN 3,330 AC-FT 3,648,000

14-1057. Columbia River at The Dalles, Oreg.

Location.--Lat 45°36'10", long 121°10'40", in NW¼ sec.3, T.1 N., R.13 E., at upstream end of Port of The Dalles dock at The Dalles, 3.2 miles downstream from The Dalles Dam, and at mile 189.3.

Drainage area.--237,000 sq mi, approximately.

Records available.--June 1878 to September 1967. Published as "near The Dalles" 1936-56. Maximum discharge only for each year in period 1858-77 at Lower Cascades Landing, published in WSP 1318.

Gage.--Water-stage recorder. Auxiliary water-stage recorder 19.5 miles downstream at Hood River. Datum of both gages is at mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1931, records based on staff gage near present site at datum 46.98 ft higher, supplemented for a few short periods by gage-height records at Umatilla and Cascade Locks. Oct. 1, 1931, to May 1, 1935, staff gage in entrance to Celilo Canal 11.6 miles upstream at datum 37.71 ft higher. May 2, 1935, to Mar. 15, 1957, water-stage recorder at site 11.7 miles upstream at datum 0.12 ft higher.

Average discharge.--89 years, 194,500 cfs (140,800,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 622,000 cfs June 10; maximum gage height, 89.00 ft June 23, minimum daily discharge, 85,600 cfs Nov. 10.

1858-1967: Maximum discharge, 1,240,000 cfs June 6, 1894 (gage height, 59.6 ft, site and datum then in use).

1878-1967: Minimum discharge observed, 35,000 cfs Jan. 12, 1937 (gage height, 126.0 ft, site and datum then in use).

Remarks.--Records good. Daily discharge Oct. 1 to May 20, July 10 to Sept. 30 determined by routing from station below McNary Dam (see sta. no. 0192). Some regulation by Franklin D. Roosevelt Lake and by reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Chelan, Yakima, Snake, and Deschutes River basins. Diurnal fluctuations caused by powerplant and gates at The Dalles Dam. Many diversions for irrigation above station. Records of daily water temperatures and chemical analysis for the water year 1967 are published in Part 2 of this report.

Discharge, in thousands of cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	99.5	94.7	108	108	157	132	156	143	426	541	189	115
2	101	94.3	98.8	104	144	135	146	132	443	521	211	101
3	89.5	101	99.3	97.3	137	141	137	136	465	514	213	92.1
4	92.0	104	106	132	126	142	144	138	496	482	213	90.2
5	95.8	106	115	132	117	126	133	126	517	468	210	97.5
6	96.6	105	125	134	142	118	125	128	544	439	194	97.4
7	95.6	93.6	132	128	142	127	154	132	564	457	175	94.5
8	86.7	93.1	120	124	143	142	164	152	602	441	170	111
9	99.6	99.7	119	105	135	143	134	153	601	407	169	110
10	94.2	85.6	114	121	134	138	140	163	622	414	158	122
11	97.5	95.9	111	122	137	122	142	197	619	397	142	103
12	110	90.8	105	121	130	112	145	225	611	376	132	109
13	115	90.2	89.3	119	130	134	160	208	602	354	128	123
14	121	92.8	120	103	133	135	141	189	601	348	147	117
15	112	93.6	126	118	136	142	120	174	595	344	142	123
16	92.3	94.9	131	117	138	126	122	189	599	335	143	117
17	92.6	99.3	120	136	124	136	129	209	605	316	150	99.8
18	102	102	112	144	119	126	170	218	602	300	154	98.2
19	90.0	118	109	140	117	115	168	237	612	299	144	113
20	91.7	106	116	138	114	134	170	271	616	292	124	120
21	93.8	98.4	120	126	130	133	156	297	617	273	157	133
22	93.1	98.4	134	117	133	146	135	314	603	268	162	124
23	90.4	116	135	121	121	153	122	371	598	265	133	111
24	97.9	126	136	145	140	157	157	415	593	254	110	92.2
25	92.6	105	125	144	134	148	174	432	596	252	110	99.9
26	91.9	99.3	100	143	117	133	162	441	605	255	136	115
27	87.3	89.3	112	119	113	132	155	414	608	256	114	111
28	89.2	92.0	114	119	129	146	153	401	614	255	132	104
29	91.7	96.8	112	121		154	150	419	601	245	144	105
30	90.7	98.7	125	150	- - - - -	141	122	422	567	218	157	106
31	99.2	- - - - -	116	171	- - - - -	154	- - - - -	425	- - - - -	186	138	- - - - -
Total	2,992.4	2,980.4	3,605.4	3,919.3	3,672	4,223	4,386	7,871	17,344	10,772	4,801	3,254.8
Mean	96.5	99.3	116.3	126.4	131.1	136.2	146.2	253.9	578.1	347.5	154.9	108.5
Max	121	126	136	171	157	157	174	441	622	541	213	133
Min	86.7	85.6	89.3	97.3	113	112	120	126	426	186	110	90.2
Ac-ft	5,935	5,912	7,151	7,774	7,283	8,376	8,700	15,610	34,400	21,370	9,523	6,456

Cal yr 1966: Total 58,620.7 Mean 160.6 Max 396 Min 79.5 Ac-ft 116,300
Wtr yr 1967: Total 69,821.3 Mean 191.3 Max 622 Min 85.6 Ac-ft 138,500

Note.--All figures expressed in thousands.

14-1058.5 South Fork Mill Creek near The Dalles, Oreg.

Location.--Lat 45°32'15", long 121°19'00", in NE¼SE¼ sec.28, T.1 N., R.12 E., on right bank 0.2 mile upstream from Wicks Reservoir, 1.1 miles upstream from confluence with North Fork, 7.8 miles southwest of The Dalles, and at mile 0.9.

Drainage area.--28.0 sq mi.

Records available.--October 1959 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 914.52 ft above mean sea level (levels by city of The Dalles). Prior to Mar. 26, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--5 years (1963-67) 12.8 cfs (9,270 acre-ft per year), adjusted for diversion and pumpage.

Extremes.--Maximum discharge during year, 79 cfs Jan. 29 (gage height, 2.13 ft); minimum, 3.8 cfs Oct. 5, 8, 9, Sept. 27-29.

1959-67: Maximum discharge, 1,220 cfs Dec. 22, 1964 (gage height, 5.22 ft), from slope-area measurement of peak flow; minimum, 0.80 cfs Dec. 15, 1965.

Remarks.--Records good, except those for period of no gage-height record, which are fair. Flow augmented by ground water pumped into stream 0.5 mile above station at times causing slight regulation and by diversion from Dog River (Hood River basin) into South Fork Mill Creek several miles above station during low-flow periods. Only monthly discharges are adjusted for the augmented flow.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.9	5.3	6.5	7.8	46	12	14	16	18	12	7.8	5.6
2	6.0	5.2	6.5	7.6	38	11	16	16	18	12	7.8	5.9
3	5.9	5.0	6.5	8.4	33	11	19	15	18	12	7.4	5.9
4	4.8	5.0	6.0	9.4	29	10	23	15	17	12	7.4	5.9
5	4.4	5.1	6.0	9.7	26	9.6	24	16	17	12	7.4	5.9
6	4.4	6.2	6.0	9.1	24	9.6	24	16	16	11	7.4	5.9
7	4.4	5.5	6.0	8.4	22	9.2	24	18	16	11	7.4	5.9
8	4.3	5.3	5.5	7.9	20	9.2	23	19	16	10	7.4	5.6
9	4.2	5.1	5.5	7.4	18	9.2	22	22	16	10	7.0	5.6
10	4.4	5.3	6.0	7.1	18	9.2	22	21	16	10	7.0	5.6
11	4.6	5.7	7.0	7.3	16	8.7	22	19	16	10	7.0	6.3
12	4.4	11	10	7.5	16	8.3	22	18	16	9.6	6.6	6.3
13	4.7	8.5	19	8.5	18	8.3	21	16	16	9.2	6.6	5.6
14	4.5	15	18	11	18	8.3	19	15	15	9.2	6.6	5.6
15	4.7	11	12	12	17	7.8	19	15	15	8.7	6.6	5.3
16	4.5	11	11	13	16	8.7	18	15	15	8.7	6.3	5.3
17	4.4	7.9	10	12	16	8.7	18	16	15	8.7	6.3	5.3
18	4.4	5.4	9.5	10	18	8.7	20	16	15	8.3	6.3	5.3
19	4.4	5.6	9.0	12	17	8.7	19	15	15	8.3	6.3	4.7
20	5.4	5.9	9.0	25	16	9.2	19	15	15	8.3	6.3	4.1
21	5.7	6.0	8.5	23	16	8.7	19	14	15	8.3	5.9	4.1
22	8.5	6.0	8.0	19	15	9.6	19	14	15	7.8	6.3	4.7
23	7.3	6.0	7.5	16	15	12	19	13	15	7.8	6.3	5.3
24	5.9	5.5	7.5	14	14	13	19	12	14	7.4	5.9	5.3
25	5.5	6.0	7.5	13	14	13	20	11	13	7.4	5.9	5.3
26	5.5	8.0	7.0	13	13	13	20	11	14	7.0	5.9	5.3
27	5.6	7.0	6.5	32	12	13	20	10	14	7.0	5.9	4.4
28	5.3	6.5	6.3	70	12	13	19	9.6	13	6.6	5.9	3.8
29	5.3	6.0	7.2	73	------	12	18	9.2	13	7.8	5.9	3.8
30	5.5	6.0	7.4	70	------	12	17	9.2	13	8.3	5.9	4.1
31	5.3	------	6.4	57	------	14	------	9.6	------	8.3	5.9	------
TOTAL	160.1	203.0	254.8	601.1	553	318.7	598	456.6	460	284.7	204.6	157.7
MEAN	5.16	6.77	8.22	19.4	19.8	10.3	19.9	14.7	15.3	9.18	6.60	5.26
MAX	8.5	15	19	73	46	14	24	22	18	12	7.8	6.3
MIN	4.2	5.0	5.5	7.1	12	7.8	14	9.2	13	6.6	5.9	3.8
AC-FT	318	403	505	1,190	1,100	632	1,190	906	912	565	406	313

Adjusted for diversion and pumpage

MEAN	2.72	4.52	7.56	19.4	19.8	10.3	19.9	14.5	4.08	2.24	2.37	2.17
CFSM	.10	.16	.27	.69	.71	.37	.71	.52	.15	.08	.08	.08
IN.	.11	.18	.31	.80	.73	.42	.79	.60	.16	.09	.10	.09
AC-FT	167	269	465	1,190	1,100	632	1,190	894	243	138	146	129

Observed

CAL YR 1966: TOTAL 4,784.2 MEAN 13.1 MAX 64 MIN 3.2 AC-FT 9,490
WAT YR 1967: TOTAL 4,252.3 MEAN 11.7 MAX 73 MIN 3.8 AC-FT 8,430

Adjusted

CAL YR 1966: MEAN 10.3 CFSM 0.37 IN. 4.98 AC-FT 7,437
WAT YR 1967: MEAN 9.06 CFSM 0.32 IN. 4.39 AC-FT 6,558

Peak discharge (base, 90 cfs).--No peak above base.

Note.--No gage-height record Nov. 21 to Dec. 27.

14-1132. Mosier Creek near Mosier, Oreg.

Location.--Lat 45°38'55", long 121°22'35", in NW¼NW¼ sec.19, T.2 N., R.12 E., on left bank 0.1 mile downstream from West Fork Mosier Creek, 2.5 miles southeast of Mosier, and at mile 3.0.

Drainage area.--41.5 sq mi.

Records available.--April 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 425 ft (from topographic map). Prior to July 27, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 348 cfs Jan. 28 (gage height, 4.33 ft); minimum, 1.1 cfs Aug. 16-18, 21.

1963-67: Maximum discharge, 4,790 cfs Dec. 23, 1964, from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow (gage height, 8.9 ft, from flood profile); minimum, 1.1 cfs Aug. 16-18, 21, 1967.

Remarks.--Records good except those below 4.0 cfs, which are fair. No regulation. Several small pumping diversions for irrigation of about 50 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.4	3.9	7.1	31	112	24	26	18	5.4	2.1	1.5	1.3
2	2.6	3.9	6.9	30	86	23	34	18	5.6	2.1	1.4	1.3
3	2.6	3.9	6.4	36	71	21	44	17	5.6	2.1	1.2	1.5
4	2.5	3.9	7.1	43	62	19	54	17	5.0	1.9	1.2	1.4
5	2.5	4.1	8.3	43	54	17	55	17	4.8	1.8	1.3	1.5
6	2.6	4.7	8.4	40	48	17	50	16	4.6	1.8	1.4	1.6
7	2.7	4.4	10	35	42	15	46	15	4.2	1.8	1.4	1.6
8	2.7	4.3	9.4	31	38	15	42	15	4.2	1.8	1.5	1.5
9	2.7	4.2	8.9	27	34	15	39	15	4.2	1.9	1.4	1.4
10	2.7	4.3	9.3	24	31	16	37	15	4.1	1.9	1.4	1.6
11	2.8	5.3	9.3	24	28	15	35	14	4.1	1.9	1.4	2.4
12	3.0	7.6	15	25	26	14	32	13	4.1	1.8	1.3	2.2
13	3.0	8.5	40	30	37	14	31	12	4.1	1.7	1.3	1.8
14	3.0	11	53	40	38	14	29	11	3.9	1.7	1.3	1.7
15	3.0	9.0	39	41	42	13	27	11	3.5	1.6	1.3	1.7
16	3.0	11	29	39	48	14	25	9.8	3.1	1.5	1.2	1.6
17	2.9	8.3	23	33	56	14	26	9.4	3.0	1.5	1.2	1.6
18	3.0	7.0	19	30	66	14	31	9.1	2.8	1.6	1.2	1.6
19	3.0	6.7	18	37	62	13	30	8.8	3.0	1.6	1.3	1.7
20	5.1	7.4	18	101	55	14	29	8.2	2.8	1.6	1.2	1.6
21	6.2	7.5	16	89	50	14	29	7.7	3.1	1.5	1.2	1.7
22	8.7	6.6	15	68	44	15	28	7.4	3.5	1.6	1.3	1.6
23	6.2	6.0	14	55	39	17	27	6.6	3.3	1.6	1.3	1.5
24	4.6	5.6	12	47	36	17	26	6.6	3.0	1.5	1.4	1.5
25	4.1	5.8	14	41	33	17	25	6.4	2.8	1.5	1.4	1.5
26	4.0	6.5	12	44	29	17	25	5.9	2.7	1.4	1.3	1.6
27	4.0	5.8	11	104	26	17	25	5.9	2.5	1.5	1.4	1.5
28	3.8	5.6	10	298	25	17	23	6.1	2.5	1.5	1.3	1.6
29	3.8	5.5	14	314	------	17	21	6.1	2.4	1.4	1.3	1.7
30	3.9	5.4	18	248	------	17	20	5.9	2.2	1.4	1.3	1.9
31	3.9	------	21	161	------	23	------	5.6	------	1.5	1.4	------
TOTAL	111.0	183.7	502.1	2,209	1,318	509	971	339.5	110.1	52.1	41.0	48.7
MEAN	3.58	6.12	16.2	71.3	47.1	16.4	32.4	11.0	3.67	1.68	1.32	1.62
MAX	8.7	11	53	314	112	24	55	18	5.6	2.1	1.5	2.4
MIN	2.4	3.9	6.4	24	25	13	20	5.6	2.2	1.4	1.2	1.3
AC-FT	220	364	996	4,380	2,610	1,010	1,930	673	218	103	81	97

CAL YR 1966: TOTAL 7,057.9 MEAN 19.3 MAX 201 MIN 1.6 AC-FT 14,000
WAT YR 1967: TOTAL 6,395.2 MEAN 17.5 MAX 314 MIN 1.2 AC-FT 12,680

Peak discharge (base, 110 cfs).--Jan. 28 (1430 hrs.) 348 cfs (4.33 ft).

14-1134. Dog River near Parkdale, Oreg.

Location.--Lat 45°24'30", long 121°31'10", in SW¼ sec.11, T.2 S., R.10 E., on right bank 100 ft upstream from city of The Dalles municipal diversion to Mill Creek basin, and 8.8 miles south of Parkdale.

Drainage area.--4.50 sq mi.

Records available.--October 1959 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 4,347 ft above mean sea level (levels by city of The Dalles). Prior to Aug. 16, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--8 years, 6.53 cfs (4,730 acre-ft per year).

Extremes.--Maximum discharge during year, 23 cfs May 22, June 19 (gage height, 3.37 ft); maximum gage height, 3.54 ft Feb. 13 (backwater from ice); minimum discharge, 1.6 cfs Dec. 7.

1959-67: Maximum discharge 56 cfs Dec. 23, 1964 (gage height, 3.60 ft), from rating curve extended above 25 cfs by logarithmic plotting; maximum gage height, 3.92 ft Dec. 22, 1964 (backwater from ice); minimum discharge, 0.80 cfs Nov. 20, 1961, Dec. 13, 1965.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.0	2.0	3.8	3.5	7.9	4.2	3.4	2.7	18	9.6	4.0	2.6
2	2.0	1.9	2.9	3.4	7.7	4.0	3.2	2.8	18	9.4	3.9	2.6
3	2.0	1.9	2.6	3.8	7.5	4.0	3.2	2.8	17	8.9	3.9	2.6
4	1.9	1.9	2.7	3.6	7.3	3.9	3.1	2.9	18	8.4	3.8	2.5
5	1.9	1.9	2.6	3.5	7.1	4.0	3.1	3.1	18	8.1	3.8	2.5
6	1.9	2.0	2.5	3.5	6.9	3.9	3.1	3.5	18	7.9	3.6	2.5
7	1.9	1.9	2.1	3.2	6.7	3.8	3.1	4.0	19	7.7	3.6	2.5
8	1.9	1.9	2.6	3.1	6.5	3.8	3.1	4.3	18	7.5	3.6	2.4
9	1.9	1.9	2.5	3.1	6.3	3.8	3.0	4.5	18	7.3	3.5	2.4
10	1.9	1.9	3.4	3.1	6.1	3.8	3.1	4.3	17	6.9	3.5	2.5
11	1.9	3.0	3.8	3.1	5.9	3.6	3.1	4.2	17	6.7	3.4	2.6
12	1.9	3.9	5.2	3.1	5.7	3.6	3.0	4.3	16	6.5	3.2	2.5
13	1.9	3.8	8.6	3.1	5.7	3.6	3.1	4.6	15	6.3	3.2	2.4
14	1.9	6.1	5.7	3.1	5.6	3.5	3.0	5.2	16	6.1	3.2	2.3
15	1.9	4.0	4.9	3.4	5.6	3.5	3.0	5.9	16	5.9	3.1	2.3
16	1.9	3.2	4.6	3.2	5.4	3.6	3.0	6.9	17	5.7	3.1	2.3
17	1.9	2.8	4.3	3.1	5.4	3.5	3.0	7.9	17	5.7	3.0	2.2
18	1.9	2.7	4.3	3.1	5.2	3.4	3.1	8.9	18	5.6	3.0	2.2
19	1.9	3.1	4.3	3.1	5.1	3.4	3.0	11	19	5.4	3.0	2.2
20	2.1	3.4	4.3	3.9	4.9	3.4	2.9	13	19	5.4	2.9	2.2
21	2.0	2.9	4.0	3.2	4.8	3.2	2.9	16	17	5.2	2.9	2.1
22	3.6	2.6	4.0	3.0	4.6	3.6	2.9	20	15	5.1	2.9	2.1
23	2.7	2.4	4.0	3.1	4.6	3.8	2.9	22	13	4.9	2.8	2.1
24	2.5	2.3	3.9	3.5	4.6	3.5	2.9	21	13	4.8	2.8	2.1
25	2.4	2.6	4.6	3.8	4.5	3.4	2.8	20	12	4.8	2.8	2.0
26	2.7	2.3	3.9	4.5	4.3	3.2	2.8	19	12	4.6	2.8	2.0
27	2.3	2.2	3.8	11	4.3	3.2	2.8	20	12	4.5	2.7	2.0
28	2.1	2.3	3.6	8.6	4.2	3.2	2.8	21	11	4.5	2.7	2.0
29	2.2	2.2	3.6	8.6	------	3.2	2.8	19	11	4.3	2.7	2.1
30	2.3	2.6	3.5	7.9	------	3.2	2.7	17	9.9	4.2	2.6	2.1
31	2.0	------	3.5	7.9	------	4.0	------	16	------	4.2	2.6	------
TOTAL	65.3	79.6	120.1	131.1	160.4	111.8	89.9	317.8	474.9	192.1	98.6	68.9
MEAN	2.11	2.65	3.87	4.23	5.73	3.61	3.00	10.3	15.8	6.20	3.18	2.30
MAX	3.6	6.1	8.6	11	7.9	4.2	3.4	22	19	9.6	4.0	2.6
MIN	1.9	1.9	2.1	3.0	4.2	3.2	2.7	2.7	9.9	4.2	2.6	2.0
CFSM	.46	.58	.85	.93	1.26	.79	.66	2.26	3.49	1.36	.70	.51
IN.	.53	.65	.98	1.07	1.31	.92	.74	2.60	3.89	1.57	.81	.56
AC-FT	130	158	238	260	318	222	178	630	942	381	196	137

CAL YR 1966: TOTAL 1,740.6 MEAN 4.77 MAX 18 MIN 1.6 CFSM 1.05 IN 14.26 AC-FT 3,450
WAT YR 1967: TOTAL 1,910.5 MEAN 5.23 MAX 22 MIN 1.9 CFSM 1.15 IN 15.65 AC-FT 3,790

Peak discharge (base, 20 cfs).--May 22 (1700 hrs) 23 cfs (3.37 ft); June 19 (1630 hrs) 23 cfs (3.37 ft).

14-1185. West Fork Hood River near Dee, Oreg.

Location.--Lat 45°35'55", long 121°38'05", in SE¼ sec.1, T.1 N., R.9 E., on left bank 0.3 mile upstream from Dead Point Creek, 0.8 mile northwest of Dee, and at mile 0.4.

Drainage area.--95.6 sq mi.

Records available.--September 1913 to February 1916 (incomplete), June 1932 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 802.1 ft above mean sea level, datum of 1929. Sept. 1, 1913, to Feb. 12, 1916, staff gage at site half a mile upstream at different datum. June 1, 1932, to Mar. 23, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--36 years (1913-14, 1932-67), 554 cfs (401,100 acre-ft per year).

Extremes.--Maximum discharge during year, 3,670 cfs Dec. 13 (gage height, 7.69 ft); minimum, 105 cfs Sept. 26, but may have been less during period of no gage-height record.

1913-16, 1932-67: Maximum discharge not determined, Dec. 22, 1964 (gage height, 27.0 ft, from floodmarks); maximum daily, 15,000 cfs Dec. 23, 1964; minimum, 93 cfs Aug. 22, 1941.

Remarks.--Records good. No regulation. Dee Irrigation District canal diverts from right bank about 6 miles above station for irrigation above station and in Middle Fork basin. Diversions from Green Point Creek basin above station for irrigation near Oak Grove; water from two of these diversions is carried in Hood River Irrigation District canal.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	131	219	510	666	1,040	522	390	295	434	225	149	150
2	157	206	463	548	975	483	393	301	451	225	141	140
3	135	194	425	1,070	856	445	399	326	430	227	139	130
4	131	185	522	1,030	829	417	405	350	425	221	139	130
5	130	198	587	875	764	399	402	368	431	218	141	120
6	128	238	610	732	677	390	384	415	428	209	139	120
7	138	205	567	619	610	378	387	500	382	196	137	120
8	145	194	484	547	558	375	393	588	375	195	139	120
9	134	194	430	495	523	452	378	631	349	193	136	120
10	128	262	498	459	533	411	372	527	327	188	140	150
11	126	321	643	681	499	384	360	469	324	189	140	180
12	145	1,130	1,360	733	484	363	369	430	311	194	140	140
13	142	878	3,220	1,720	762	357	455	404	305	194	140	120
14	131	1,830	2,260	1,640	612	342	414	418	314	180	140	110
15	128	1,520	1,340	1,600	567	348	378	479	325	173	140	110
16	124	1,260	996	1,330	580	378	369	564	330	170	150	120
17	124	922	838	1,000	1,040	417	360	656	323	169	150	120
18	123	700	804	820	1,160	469	378	616	309	165	150	120
19	121	620	780	1,150	855	431	357	610	307	159	150	120
20	255	605	858	1,490	722	494	345	698	326	158	140	120
21	237	539	721	1,080	637	525	336	745	312	157	140	120
22	917	450	617	861	573	585	327	737	348	155	130	120
23	780	397	545	721	541	740	327	630	290	155	130	120
24	481	359	500	629	504	673	330	525	284	163	120	110
25	348	580	483	566	487	593	345	454	274	162	120	110
26	332	588	425	757	452	541	339	416	274	154	120	112
27	323	476	390	2,030	427	497	333	405	271	149	120	112
28	264	428	370	3,070	466	462	315	426	253	148	130	114
29	239	392	441	2,460	------	438	303	493	246	151	140	119
30	285	437	424	1,820	------	411	297	522	235	148	150	133
31	240	------	429	1,280	------	405	------	442	------	150	150	------
TOTAL	7,222	16,527	23,540	34,479	18,733	14,125	10,940	15,440	9,993	5,540	4,290	3,730
MEAN	233	551	759	1,112	669	456	365	498	333	179	138	124
MAX	917	1,830	3,220	3,070	1,160	740	455	745	451	227	150	180
MIN	121	185	370	459	427	342	297	295	235	148	120	110
AC-FT	14,320	32,780	46,690	68,390	37,160	28,020	21,700	30,620	19,820	10,990	8,510	7,400

CAL YR 1966: TOTAL 183,316 MEAN 502 MAX 3,220 MIN 121 AC-FT 363,600
WAT YR 1967: TOTAL 164,559 MEAN 451 MAX 3,220 MIN 110 AC-FT 326,400

Peak discharge (base, 4,100 cfs).--No peak above base.

Note.--No gage-height record Aug. 9 to Sept. 26.

14-1200. Hood River at Tucker Bridge, near Hood River, Oreg.

Location.--Lat 45°39'20", long 121°32'50", in SE¼ sec.15, T.2 N., R.10 E., on right bank 25 feet downstream from Tucker Bridge, 0.5 mile upstream from Odell Creek, 4.5 miles (revised) southwest of Hood River, and at mile 6.1.

Drainage area.--279 sq mi.

Records available.--October 1897 to December 1899, September 1913 to September 1914, August 1915 to September 1917, January 1965 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 383.2 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (Oregon State Highway Department bench mark). Prior to July 23, 1915, chain or wire-weight gage at bridge at various datums. July 23 to Dec. 21, 1915, graphic water-stage recorder 0.8 mile upstream at different datum. January 1916 to September 1917, wire-weight gage at bridge at different datum. Jan. 16 to July 23, 1965, wire-weight gage at bridge.

Average discharge.--7 years (1897-99, 1913-14, 1915-17, 1965-67), 1,169 cfs (846,300 acre-ft per year).

Extremes.--Maximum discharge during year, 5,580 cfs Jan. 28 (gage height, 8.37 ft); minimum, 202 cfs Sept. 9.

1897-99, 1913-14, 1915-17, 1965-67: Maximum discharge observed, 15,200 cfs, Jan. 21, 1899 (gage height, 13.0 ft, datum then in use); minimum recorded, 136 cfs Sept. 16, 1915, caused by temporary storage behind dam at Dee; minimum daily, 224 cfs Sept. 1, 1966.

Flood of Dec. 22, 1964, reached a stage of 20.6 ft, present datum (discharge, 33,200 cfs, from rating curve extended above 1,500 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records excellent. Some daily fluctuation caused by diversion dam above station and sawmill at Dee. Diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	313	416	905	1,070	2,020	980	780	599	740	509	289	304
2	371	389	812	930	1,930	930	776	606	808	512	273	310
3	307	369	756	1,580	1,710	860	780	637	764	539	267	262
4	292	354	870	1,560	1,630	820	788	669	772	524	269	274
5	292	359	940	1,380	1,460	788	780	679	784	521	267	291
6	292	448	950	1,190	1,330	776	752	732	776	476	260	249
7	307	451	925	1,050	1,260	760	752	845	732	425	255	233
8	313	436	812	965	1,180	752	760	960	708	418	247	247
9	286	428	752	895	1,110	850	740	1,050	672	408	251	235
10	282	529	850	845	1,100	808	732	900	637	395	267	242
11	282	567	970	1,100	1,050	760	716	792	623	390	271	368
12	292	1,750	1,560	1,120	1,020	728	724	732	602	415	274	287
13	288	1,250	3,150	2,410	1,450	728	830	697	574	445	276	240
14	268	2,530	3,240	2,440	1,230	708	772	720	592	398	287	226
15	264	2,110	2,120	2,450	1,160	708	720	800	623	372	289	237
16	257	1,780	1,660	2,130	1,140	752	708	920	644	363	289	269
17	261	1,360	1,420	1,650	1,660	796	704	1,060	672	361	312	274
18	253	1,050	1,330	1,340	1,910	850	744	1,040	665	341	312	269
19	253	960	1,290	1,900	1,470	796	697	1,020	712	322	293	282
20	453	980	1,380	2,590	1,270	875	679	1,140	776	310	295	297
21	439	890	1,210	1,880	1,150	910	669	1,270	740	306	295	300
22	1,220	780	1,080	1,520	1,070	970	655	1,330	732	306	267	298
23	1,180	700	995	1,310	1,030	1,200	655	1,170	620	306	260	249
24	768	662	910	1,180	985	1,100	655	990	585	352	244	246
25	588	870	910	1,120	950	1,000	669	855	585	352	235	262
26	571	970	825	1,360	900	945	662	780	609	322	238	251
27	578	804	764	3,420	865	885	658	768	620	295	264	258
28	471	748	740	4,930	890	845	630	800	571	295	276	273
29	428	704	830	4,170	------	812	613	915	554	304	310	276
30	522	772	808	4,090	------	788	599	910	545	297	324	318
31	451	------	792	3,220	------	804	------	768	------	306	310	------
TOTAL	13,142	26,416	36,556	58,795	35,930	26,284	21,399	27,154	20,037	11,885	8,566	8,127
MEAN	424	881	1,179	1,897	1,283	848	713	876	668	383	276	271
MAX	1,220	2,530	3,240	4,930	2,020	1,200	830	1,330	808	539	324	368
MIN	253	354	740	845	865	708	599	599	545	295	235	226
AC-FT	26,070	52,400	72,510	116,600	71,270	52,130	42,440	53,860	39,740	23,570	16,990	16,120
CFSM	1.52	3.16	4.23	6.80	4.60	3.04	2.56	3.14	2.39	1.37	.989	.971
IN	1.75	3.52	4.87	7.84	4.79	3.50	2.85	3.62	2.67	1.58	1.14	1.08

CAL YR 1966: TOTAL 320,475 MEAN 878 MAX 4,000 MIN 224 AC-FT 635,700 CFSM 3.15 INCHES 42.72
WAT YR 1967: TOTAL 294,291 MEAN 806 MAX 4,930 MIN 226 AC-FT 583,700 CFSM 2.89 INCHES 39.23

Peak discharge (base, 4,500 cfs).--Dec. 13 (1400 hrs) 5,120 cfs (8.04 ft); Jan. 28 (0900 hrs) 5,580 cfs (8.37 ft).

14-1340. Salmon River near Government Camp, Oreg.

Location.--Lat 45°16'00", long 121°43'00", in N½ sec.31, T.3 S., R.9 E., on right bank near lower end of Red Top Meadows and 3 miles southeast of Government Camp.

Drainage area.--8.7 sq mi, approximately.

Records available.--May 1910 to May 1912, April 1926 to September 1967. Published as "near Rowe" 1910-12.

Gage.--Digital water-stage recorder. Datum of gage is 3,445.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 21, 1910, staff gage at site a quarter of a mile upstream at different datum. Nov. 21, 1910, to May 31, 1912, and Apr. 21, 1926, to Sept. 30, 1933, graphic water-stage recorder at site 75 ft upstream from former site at different datums. Oct. 1, 1933, to Sept. 30, 1960, graphic water-stage recorder at present site at datum 1.00 ft higher. Oct. 1, 1960 to Aug. 17, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--42 years (1910-11, 1926-67), 44.2 cfs (32,000 acre-ft per year).

Extremes.--Maximum discharge during year, 129 cfs Jan. 13 (gage height, 2.28 ft); minimum, 14 cfs Sept. 12.

1910-12, 1926-67: Maximum discharge, 1,300 cfs Dec. 23, 1964 (gage height, 4.75 ft), from rating curve extended above 310 cfs on basis of slope-area measurement of peak flow; minimum, 10 cfs Nov. 27, 1952.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	22	36	36	49	34	26	26	66	42	28	20
2	26	21	30	32	47	33	27	29	65	42	26	22
3	22	19	29	55	45	31	28	34	63	42	26	20
4	19	19	31	42	48	31	28	36	65	41	26	20
5	19	25	30	37	46	30	26	39	67	41	26	20
6	19	27	28	34	42	30	27	44	65	39	25	19
7	20	22	28	32	40	30	31	52	63	37	25	19
8	23	20	27	31	39	30	31	56	61	37	24	20
9	20	33	27	31	39	30	28	55	59	37	24	19
10	20	38	33	31	41	29	28	46	58	36	25	21
11	18	69	39	37	39	28	30	42	58	36	25	27
12	20	67	57	35	38	27	30	42	55	37	25	17
13	21	50	86	91	39	27	28	43	54	37	24	18
14	20	77	59	91	36	26	27	46	53	34	24	18
15	20	59	48	85	36	27	26	53	53	33	24	19
16	20	54	44	64	37	31	25	62	55	33	24	19
17	20	42	41	52	63	31	25	70	54	33	24	18
18	19	38	40	47	55	30	25	67	53	32	23	18
19	19	38	41	47	42	28	24	70	55	31	22	19
20	27	36	44	45	39	29	25	78	56	31	23	18
21	22	32	39	41	37	30	24	84	58	31	23	18
22	56	30	36	38	36	32	25	85	62	31	22	18
23	53	29	35	37	36	36	26	76	52	30	21	18
24	32	28	34	36	35	31	29	69	49	31	21	17
25	28	49	34	34	34	29	29	63	48	30	20	17
26	30	37	32	43	33	28	26	62	47	29	20	18
27	26	32	31	84	33	27	25	62	46	28	20	17
28	23	32	30	91	34	27	24	67	45	28	21	17
29	23	30	33	79	------	27	25	70	43	28	22	20
30	24	31	31	63	------	26	26	67	43	28	21	20
31	22	------	33	54	------	26	------	58	------	29	20	------
TOTAL	751	1,106	1,166	1,555	1,138	911	804	1,753	1,671	1,054	724	571
MEAN	24.2	36.9	37.6	50.2	40.6	29.4	26.8	56.5	55.7	34.0	23.4	19.0
MAX	56	77	86	91	63	36	31	85	67	42	28	27
MIN	18	19	27	31	33	26	24	26	43	28	20	17
CFSM	2.78	4.24	4.32	5.77	4.67	3.38	3.08	6.50	6.40	3.91	2.68	2.19
IN.	3.21	4.73	4.98	6.65	4.86	3.89	3.44	7.49	7.14	4.51	3.09	2.44
Ac-ft	1,490	2,190	2,310	3,080	2,260	1,810	1,590	3,480	3,310	2,090	1,440	1,130

CAL YR 1966: TOTAL 13,709 MEAN 37.6 MAX 124 MIN 18 CFSM 4.32 IN 58.60 AC-FT 27,190
WAT YR 1967: TOTAL 13,204 MEAN 36.2 MAX 91 MIN 17 CFSM 4.16 IN 56.44 AC-FT 26,190

Peak discharge (base, 150 cfs).--No peak above base.

14-1370. Sandy River near Marmot, Oreg.

Location.--Lat 45°23'30", long 122°07'40", in SE¼ sec.13, T.2 S., R.5 E., on right bank 0.7 mile southwest of Marmot, 0.8 mile upstream from Sandy River Dam of Portland General Electric Co., 6.6 miles downstream from Salmon River, and at mile 30.9.

Drainage area.--262 sq mi.

Records available.--August 1911 to September 1967. Published as "at Marmot" October 1912 to September 1913. Records for January 1916 to June 1919, published as "below dam, near Marmot," obtained by combining records for Sandy River below dam, near Marmot, with records for Sandy River Canal near Marmot.

Gage.--Digital water-stage recorder. Altitude of gage is 730 ft (from river-profile map). Aug. 15, 1911, to Dec. 20, 1915, and July 2, 1919, to Oct. 19, 1933, staff gage at site 1 mile upstream at different datum. Oct. 20, 1933, to Sept. 30, 1958, graphic water-stage recorder at site 0.6 mile upstream at different datum. Oct. 1, 1958 to June 11, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--56 years, 1,361 cfs (985,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,360 cfs Jan. 28 (gage height, 10.43 ft); minimum, 277 cfs Oct. 19.

1911-67: Maximum discharge, 61,400 cfs Dec. 22, 1964 (gage height, 17.05 ft), from rating curve extended above 7,000 cfs by logarithmic plotting; minimum, 195 cfs Nov. 27, 28, 1952.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	315	515	1,070	2,240	2,280	1,390	929	818	1,180	595	395	343
2	414	481	969	1,910	2,170	1,350	920	814	1,250	598	380	350
3	336	450	894	2,950	1,960	1,210	947	858	1,170	602	378	340
4	313	425	1,140	2,790	1,850	1,130	1,000	910	1,140	567	378	345
5	306	477	1,250	2,340	1,760	1,070	965	956	1,130	546	375	348
6	300	711	1,270	2,020	1,580	1,040	915	1,110	1,090	518	373	338
7	325	618	1,270	1,710	1,440	1,020	938	1,270	1,020	488	368	328
8	364	568	1,110	1,500	1,330	990	995	1,480	947	479	373	330
9	326	595	1,030	1,400	1,240	1,200	951	1,640	902	470	368	323
10	302	1,370	1,670	1,420	1,260	1,130	920	1,450	870	461	375	333
11	300	2,140	2,160	2,130	1,220	1,020	897	1,280	858	476	375	398
12	318	3,800	3,330	2,250	1,180	951	911	1,220	830	500	375	373
13	350	2,480	5,510	5,780	1,550	924	1,030	1,130	814	494	368	318
14	326	3,730	4,310	5,130	1,390	884	985	1,170	810	449	363	310
15	305	3,470	3,050	4,360	1,310	906	915	1,300	818	435	368	310
16	296	3,270	2,470	3,810	1,390	1,090	888	1,570	826	435	370	328
17	298	2,610	2,070	2,940	3,090	1,210	854	1,880	818	433	373	325
18	290	2,000	1,800	2,420	3,640	1,370	879	1,810	794	420	373	315
19	283	1,680	1,650	2,490	2,410	1,250	846	1,760	798	408	365	328
20	517	1,490	1,730	3,100	1,940	1,220	818	1,890	862	408	365	328
21	518	1,270	1,540	2,500	1,660	1,240	782	2,000	854	408	350	330
22	1,930	1,090	1,360	2,080	1,480	1,300	766	1,930	1,000	410	348	330
23	1,740	952	1,230	1,790	1,360	1,650	778	1,730	834	420	345	310
24	1,100	870	1,160	1,590	1,290	1,550	798	1,480	762	430	338	308
25	784	1,540	1,200	1,440	1,250	1,390	850	1,280	738	418	335	308
26	748	1,870	1,090	2,140	1,180	1,270	846	1,200	726	408	338	308
27	738	1,410	1,020	4,840	1,130	1,180	838	1,170	710	403	338	313
28	610	1,190	1,000	6,420	1,220	1,120	798	1,220	675	398	350	313
29	558	1,060	1,240	4,370	------	1,090	778	1,360	651	403	363	328
30	666	1,010	1,340	3,550	------	1,020	834	1,490	619	393	370	355
31	566	------	1,490	2,690	------	965	------	1,260	------	400	355	------
TOTAL	16,542	45,142	53,423	88,100	46,560	36,130	26,571	42,436	26,496	14,273	11,288	9,914
MEAN	534	1,505	1,723	2,842	1,663	1,165	886	1,369	883	460	364	330
MAX	1,930	3,800	5,510	6,420	3,640	1,650	1,030	2,000	1,250	602	395	398
MIN	283	425	894	1,400	1,130	884	766	814	619	393	335	308
CFSM	2.04	5.74	6.58	10.8	6.35	4.45	3.38	5.22	3.37	1.76	1.39	1.26
IN.	2.35	6.41	7.58	12.5	6.61	5.13	3.77	6.02	3.76	2.03	1.60	1.41
AC-FT	32,810	89,540	106,000	174,700	92,350	71,660	52,700	84,170	52,550	28,310	22,390	19,660

CAL YR 1966: TOTAL 424,234 MEAN 1,162 MAX 5,510 MIN 272 CFSM 4.44 IN 60.22 AC-FT 841,500
WAT YR 1967: TOTAL 416,875 MEAN 1,142 MAX 6,420 MIN 283 CFSM 4.36 IN 59.17 AC-FT 826,900

Peak discharge (base, 7,700 cfs).--No peak above base.

14-1388. Blazed Alder Creek near Rhododendron, Oreg.

Location.--Lat 45°27'10", long 121°53'25", in sec.25, T.1 S., R.7 E., on right bank 600 ft below the confluence of Bedrock and Hickman Creeks and 8.6 miles north of Rhododendron.

Drainage area.--8.17 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 2,540 ft (from topographic map). Oct. 1, 1963, to Aug. 14, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 722 cfs Dec. 13 (gage height. 4.19 ft); minimum, 1.5 cfs Sept. 5-10, 28, 29.

1963-67: Maximum discharge 2,610 cfs Dec. 22, 1964 (gage height, 8.25 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum, 1.5 cfs Sept. 5-10, 28, 29, 1967.

Remarks.--Records fair. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.1	34	54	133	85	58	30	35	62	9.6	3.2	1.7
2	6.7	30	45	90	90	52	29	37	62	9.1	3.2	1.7
3	4.3	26	38	246	76	44	30	43	58	8.6	2.9	1.7
4	3.6	24	47	158	80	40	34	52	55	8.1	2.9	1.7
5	3.2	30	48	107	76	37	35	56	53	7.6	2.9	1.7
6	3.1	38	50	78	66	35	38	69	47	7.2	2.9	1.5
7	6.1	34	41	64	58	33	42	83	40	6.7	3.2	1.5
8	8.1	30	34	53	52	34	46	100	35	6.7	3.2	1.5
9	7.0	40	30	49	49	47	46	107	32	6.7	2.9	1.5
10	5.0	90	95	47	56	39	44	81	28	6.3	2.7	2.4
11	4.0	150	128	92	53	34	43	71	27	5.9	2.7	12
12	6.0	240	286	125	55	30	46	68	25	5.9	2.7	4.8
13	8.0	160	569	487	73	28	62	59	23	5.5	2.4	3.2
14	6.5	316	278	304	58	27	53	61	23	5.1	2.4	2.7
15	5.0	252	137	277	58	28	44	71	23	5.1	2.4	2.4
16	4.8	194	98	176	66	39	39	102	22	5.1	2.4	2.1
17	4.6	123	80	104	248	53	35	119	21	4.8	2.1	2.1
18	4.4	79	71	78	206	61	35	105	20	4.8	2.1	2.1
19	4.4	61	71	121	105	50	33	100	20	4.5	2.1	2.1
20	55	55	90	139	74	58	30	113	21	4.5	2.1	2.1
21	50	46	73	90	62	62	29	115	21	4.1	1.9	2.1
22	180	37	62	68	53	78	30	102	37	4.1	1.9	2.9
23	120	31	53	56	47	105	33	80	22	4.1	1.9	2.7
24	90	25	52	49	43	81	37	59	17	3.8	1.9	2.1
25	55	92	47	42	43	66	44	50	16	3.8	1.9	2.1
26	60	87	40	148	40	58	46	49	14	3.5	1.9	1.9
27	50	58	34	435	39	50	44	47	13	3.5	1.9	1.7
28	42	47	32	450	47	46	39	53	12	3.5	1.7	1.7
29	46	39	58	256	------	40	35	68	11	3.5	1.7	3.2
30	55	44	55	169	------	37	35	80	10	3.2	1.7	4.5
31	40	------	69	104	------	34	------	62	------	3.2	1.7	------
TOTAL	940.9	2,512	2,865	4,795	2,058	1,484	1,166	2,297	870	168.1	73.5	77.4
MEAN	30.4	83.7	92.4	155	73.5	47.9	38.9	74.1	29.0	5.42	2.37	2.58
MAX	180	316	569	487	248	105	62	119	62	9.6	3.2	12
MIN	3.1	24	30	42	39	27	29	35	10	3.2	1.7	1.5
CFSM	3.72	10.2	11.3	18.9	9.00	5.86	4.76	9.07	3.55	.66	.29	.32
IN.	4.28	11.4	13.0	21.8	9.37	6.76	5.31	10.5	3.96	.77	.33	.35
AC-FT	1,870	4,980	5,680	9,510	4,080	2,940	2,310	4,560	1,730	333	146	154

CAL YR 1966: TOTAL 19,900.3 MEAN 54.5 MAX 569 MIN 2.4 CFSM 6.67 IN 90.59 AC-FT 39,470
WAT YR 1967: TOTAL 19,306.9 MEAN 52.9 MAX 569 MIN 1.5 CFSM 6.47 IN 87.89 AC-FT 38,290

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-13	1030	4.19	722	1-28	0200	3.94	634
1-13	1830	3.73	560	2-17	2000	3.28	414

Note.--No gage-height record Oct. 8 to Nov. 14.

14-1388.5. Bull Run River near Multnomah Falls, Oreg.

Location.--Lat 45°29'50", long 122°00'50", near center of sec.12, T.1 S., R.6 E., on right bank 1.2 miles above North Fork, 7.0 miles southeast of Multnomah Falls, and at mile 14.8.

Drainage area.--47.9 sq mi.

Records available.--July 1966 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,080 ft (from topographic map).

Extremes.--Maximum discharge during year, 4,440 cfs Dec. 13 (gage height, 9.74 ft); minimum, 33 cfs Sept. 27.

1966-67: Maximum discharge, 4,440 cfs Dec. 13, 1966 (gage height, 9.74 ft); minimum, 33 cfs Sept. 27, 1967.

Remarks.--Records excellent. Water stored in Bull Run Lake since 1915 (capacity, 12,270 acre-ft). No diversion above station.

Records of suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	81	232	360	1,040	519	438	218	203	325	96	50	42
2	116	197	329	637	579	388	215	199	328	90	49	42
3	89	173	305	1,570	507	326	225	211	304	88	49	42
4	82	151	413	1,080	517	288	245	230	292	82	48	42
5	76	191	447	726	496	262	250	253	284	79	47	42
6	75	228	472	497	422	245	238	310	261	77	47	42
7	110	189	403	393	363	228	252	376	233	75	48	42
8	148	173	320	343	321	232	271	455	213	73	48	42
9	110	240	274	322	300	372	258	487	196	71	47	42
10	94	444	716	325	339	289	248	396	185	69	46	50
11	88	880	930	639	327	245	240	369	180	68	46	100
12	140	1,520	1,790	940	323	217	245	330	173	67	45	60
13	150	1,000	3,420	3,340	437	205	399	300	165	64	45	50
14	130	2,050	1,810	2,080	367	189	337	310	163	63	43	44
15	110	1,460	880	1,760	328	206	286	373	163	62	43	40
16	100	1,220	605	1,210	493	286	258	483	163	61	43	38
17	95	930	469	758	2,020	391	235	544	161	60	43	38
18	90	553	412	523	1,390	465	240	498	153	58	42	36
19	95	442	396	872	694	375	220	486	146	58	42	36
20	400	390	508	1,120	493	443	207	528	163	58	42	36
21	700	329	407	676	405	449	195	538	160	56	41	36
22	2,000	268	343	482	348	525	193	501	283	55	41	40
23	1,200	232	301	397	312	735	197	425	203	54	41	36
24	700	203	297	337	290	561	209	346	170	54	41	35
25	500	582	294	302	313	452	242	293	150	52	40	35
26	420	551	252	894	295	392	250	277	137	52	38	34
27	360	407	225	2,680	280	343	252	268	128	52	39	34
28	286	332	218	2,670	358	313	230	295	118	51	40	34
29	265	282	385	1,670	------	283	209	362	110	51	40	38
30	367	316	403	1,100	------	253	207	434	104	51	40	49
31	274	------	549	668	------	230	------	353	------	51	40	------
TOTAL	9,451	16,165	18,933	32,051	13,836	10,626	7,271	11,433	5,814	1,998	1,354	1,277
MEAN	305	539	611	1,034	494	343	242	369	194	64.5	43.7	42.6
MAX	2,000	2,050	3,420	3,340	2,020	735	399	544	328	96	50	100
MIN	75	151	218	302	280	189	193	199	104	51	38	34
CFSM	6.36	11.2	12.8	21.6	10.3	7.16	5.06	7.70	4.05	1.35	.91	.89
IN.	7.34	12.6	14.7	24.9	10.7	8.25	5.65	8.88	4.51	1.55	1.05	.99
AC-FT	18,750	32,060	37,550	63,570	27,440	21,080	14,420	22,680	11,530	3,960	2,690	2,530

CAL YR 1966: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1967: TOTAL 130,209 MEAN 357 MAX 3,420 MIN 34 CFSM 7.45 IN 101.10 AC-FT 258,300

Peak discharge (base, 3,800 cfs).--Dec. 13 (1130 hrs) 4,440 cfs (9.74 ft); Jan. 13 (1900 hrs) 3,910 cfs (9.28 ft).

14-1389. North Fork Bull Run River near Multnomah Falls, Oreg.

Location.--Lat 45°29'40", long 122°02'05", in sec.11, near line between SE¼ and SW¼, T.1 S., R.6 E., on right bank 6.9 miles southeast of Multnomah Falls and at mile 0.1.

Drainage area.--8.32 sq mi.

Records available.--August 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,080 ft (from topographic map).

Extremes.--Maximum discharge during year, 674 cfs Jan. 13 (gage height, 4.29 ft); minimum, 9.8 cfs Sept. 27-29.

1965-67: Maximum discharge, 674 cfs Jan. 13, 1967 (gage height, 4.29 ft); minimum, 9.8 cfs Sept. 27-29, 1967.

Remarks.--Records good. Regulation at times by North Fork dam since 1958, capacity, about 1,030 acre-ft. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	45	77	178	99	75	46	43	56	20	13	11
2	22	38	72	119	113	67	46	43	34	19	13	11
3	16	34	71	245	102	58	48	45	32	18	13	11
4	14	31	96	172	102	55	50	46	31	18	12	11
5	14	36	104	132	94	51	50	48	29	47	12	11
6	14	46	106	111	91	49	48	55	28	75	12	11
7	24	38	92	99	85	47	52	60	27	73	13	11
8	29	36	75	92	81	48	52	66	25	69	13	11
9	20	70	68	86	78	68	48	70	24	64	12	11
10	18	120	164	82	81	57	47	66	23	58	12	12
11	17	170	160	122	77	49	47	67	22	31	12	27
12	28	240	274	185	74	45	48	63	21	16	12	14
13	29	190	417	578	78	43	77	61	21	15	12	12
14	24	280	304	326	67	40	63	62	20	15	12	11
15	21	205	167	264	59	45	56	67	20	15	12	11
16	19	200	127	183	99	59	53	73	19	15	12	11
17	19	146	111	127	378	72	49	78	19	14	12	11
18	17	119	104	99	219	81	50	78	19	14	12	11
19	18	110	103	117	124	66	48	80	18	14	12	11
20	98	102	115	138	99	74	45	82	19	14	11	11
21	93	93	102	109	87	74	42	84	24	14	11	11
22	327	85	93	91	77	84	42	84	50	14	11	11
23	171	79	89	82	68	101	43	80	36	14	11	10
24	118	74	89	75	62	96	48	74	29	13	11	10
25	94	126	89	72	61	78	53	70	26	13	11	10
26	101	111	82	153	57	69	52	67	24	13	11	10
27	91	93	75	350	55	63	51	66	23	13	11	10
28	76	81	73	362	66	58	46	66	22	13	11	10
29	71	73	92	310	------	55	42	70	21	13	11	11
30	76	76	96	180	------	51	43	81	20	13	11	14
31	59	------	115	113	------	48	------	72	------	13	11	------
TOTAL	1,752	3,147	3,802	5,352	2,733	1,926	1,485	2,067	782	770	365	348
MEAN	56.5	105	123	173	97.6	62.1	49.5	66.7	26.1	24.8	11.8	11.6
MAX	327	280	417	578	378	101	77	84	56	75	13	27
MIN	14	31	68	72	55	40	42	43	18	13	11	10
CFSM	6.79	12.6	14.7	20.8	11.7	7.47	5.95	8.01	3.13	2.99	1.42	1.39
IN.	7.83	14.1	17.0	23.9	12.2	8.61	6.64	9.24	3.50	3.44	1.63	1.56
AC-FT	3,480	6,240	7,540	10,620	5,420	3,820	2,950	4,100	1,550	1,530	724	690

CAL YR 1966: TOTAL 27,633 MEAN 75.7 MAX 417 MIN 13 CFSM 9.10 IN 123.52 AC-FT 54,810
WAT YR 1967: TOTAL 24,529 MEAN 67.2 MAX 578 MIN 10 CFSM 8.08 IN 109.64 AC-FT 48,650

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-13	1130	4.01	515	1-28	0200	3.98	500
1-13	1800	4.29	674	2-17	1930	4.11	566

14-1390. Lake Ben Morrow near Bull Run, Oreg.

Location.--Lat 45°28'50", long 122°04'50", in NW¼SW¼ sec.16, T.1 S., R.6 E., in control house of Bear Creek Dam on Bull Run River, 8.2 miles northeast of Bull Run, and at mile 11.2.

Drainage area.--74.6 sq mi.

Records available.--October 1928 to September 1967. Prior to October 1937, published as Bull Run Reservoir near Bull Run.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Portland Water Bureau). Prior to Oct. 9, 1930, staff gage, and Oct. 9, 1930, to September 30, 1962, water-stage recorder at present site and datum.

Extremes.--Maximum contents observed during year, 30,850 acre-ft June 23 (elevation, 1,045.66 ft); minimum observed, 6,860 acre-ft Oct. 17 (elevation, 963.20 ft).

1928-67: Maximum contents observed, 31,600 acre-ft Mar. 31, 1931 (elevation, 1,047.40 ft); minimum observed (after first filling), 169 acre-ft Jan. 10, 1960 (elevation, 887.5 ft).

Remarks.--Lake is formed by concrete dam completed in March 1929 for water supply of city of Portland. Storage began about Apr. 29, 1929; first filling occurred May 15, 1929. Capacity, 26,930 acre-ft at crest of spillway (elevation, 1,036.0 ft); capacity increased in October 1954 to 30,140 acre-ft at elevation 1,044.0 ft by installation of three gates 40 ft wide and 8 ft high. No dead storage. Water is used for power generation by Portland General Electric Co. and municipal supply for city of Portland. Figures herein represent total contents.

Cooperation.--Gage readings and capacity table furnished by Portland Water Bureau.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	983.02	10,720	-
Oct. 31	1,030.10	24,720	+14,000
Nov. 30	1,037.16	27,380	+2,660
Dec. 31	a1,035.37	26,690	-690
Calendar year 1966	-	-	+11,410
Jan. 31	1,038.02	27,720	+1,030
Feb. 28	1,026.60	23,460	-4,260
Mar. 31	1,013.00	18,890	-4,570
Apr. 30	a1,041.15	28,960	+10,070
May 31	1,044.38	30,300	+1,340
June 30	1,045.18	30,650	+350
July 31	1,026.18	23,310	-7,340
Aug. 31	988.72	12,060	-11,250
Sept. 30	a974.60	8,940	-3,120
Water year 1966-67	-	-	-1,780

† Elevation at 0800 hrs.
a Interpolated.

14-1397. Cedar Creek near Brightwood, Oreg.

Location.--Lat 45°27'30", long 122°01'50", in NE¼ sec.26, T.1 S., R.6 E., on right bank 2.5 miles upstream from South Fork Bull Run River and 5.8 miles north of Brightwood.

Drainage area.--7.93 sq mi.

Records available.--July to November 1964, June 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,960 ft (from topographic map).

Extremes.--Maximum discharge during year, 626 cfs Jan. 13 (gage height, 4.00 ft); minimum, 9.0 cfs Sept. 28, 29.

1964-67: Maximum discharge, 1,990 cfs Dec. 22, 1964 (gage height, 7.20 ft), from rating curve extended above 200 cfs on basis of slope-area measurement of peak flow; minimum, 7.2 cfs Sept. 9, Oct. 2-4, 1965.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	37	62	188	94	78	42	41	41	19	14	12
2	17	32	50	118	116	69	41	39	38	19	14	12
3	14	29	45	263	89	58	42	40	33	18	14	12
4	12	26	69	185	89	52	48	41	31	18	14	12
5	11	38	72	116	79	49	51	42	29	17	14	12
6	11	43	79	84	64	45	47	49	27	17	14	12
7	18	33	64	64	57	43	49	54	25	17	14	12
8	25	31	51	56	51	44	51	62	24	17	14	12
9	17	48	49	52	49	78	49	67	23	16	14	12
10	14	88	156	53	52	57	48	60	22	16	14	13
11	13	156	166	118	50	49	45	64	21	16	14	24
12	23	260	263	161	49	44	45	59	20	16	13	14
13	25	174	411	578	75	42	81	52	20	16	13	12
14	19	319	278	349	57	39	62	51	19	15	13	11
15	16	236	143	286	50	43	52	56	18	15	13	11
16	15	213	98	216	93	59	48	64	18	15	13	11
17	15	134	75	134	374	84	44	70	17	15	13	10
18	14	93	63	91	263	94	45	64	17	15	13	10
19	14	76	58	131	129	73	42	63	16	15	13	10
20	65	64	84	183	89	84	39	64	18	15	13	10
21	59	52	60	116	70	82	37	64	23	15	13	9.9
22	256	43	50	82	60	94	37	58	59	15	13	9.9
23	169	37	45	67	53	131	38	48	33	15	13	9.9
24	91	32	49	56	50	100	41	41	28	15	13	9.6
25	60	91	47	51	57	81	49	35	25	15	12	9.6
26	73	76	39	156	53	72	49	32	24	15	12	9.3
27	62	57	35	393	51	64	48	32	23	15	12	9.3
28	45	48	36	386	66	59	42	35	22	15	12	9.3
29	44	42	67	263	------	53	39	45	21	14	12	11
30	66	48	66	171	------	48	43	69	20	14	12	14
31	44	------	91	110	------	44	------	50	------	14	12	------
TOTAL	1,338	2,656	2,921	5,277	2,429	2,012	1,394	1,611	755	489	407	345.8
MEAN	43.2	88.5	94.2	170	86.8	64.9	46.5	52.0	25.2	15.8	13.1	11.5
MAX	256	319	411	578	374	131	81	70	59	19	14	24
MIN	11	26	35	51	49	39	37	32	16	14	12	9.3
CFSM	5.44	11.2	11.9	21.5	10.9	8.18	5.86	6.55	3.17	1.99	1.66	1.45
IN.	6.27	12.5	13.7	24.7	11.4	9.44	6.54	7.56	3.54	2.29	1.91	1.62
AC-FT	2,650	5,270	5,790	10,470	4,820	3,990	2,760	3,200	1,500	970	807	686

CAL YR 1966: TOTAL 21,626 MEAN 59.2 MAX 411 MIN 11 CFSM 7.47 IN 101.42 AC-FT 42,890
WAT YR 1967: TOTAL 21,634.8 MEAN 59.3 MAX 578 MIN 9.3 CFSM 7.47 IN 101.46 AC-FT 42,910

Peak discharge (base, 500 cfs).--Jan. 13 (0730 hrs) 626 cfs (4.00 ft); Feb. 17 (2130 hrs) 504 cfs (3.67 ft).

Note.--No gage-height record Aug. 8 to Sept. 12.

14-1399. Bull Run Reservoir No. 2 near Bull Run, Oreg.

Location.-- Lat 45°26'55", long 122°08'45", on line between secs. 25 and 26, T.1 S., R.5 E., on south tower 0.3 mile above headworks dam, 4.4 miles northeast of Bull Run, and at mile 6.5.

Drainage area.--102 sq mi.

Records available.--December 1961 to September 1967.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Portland Water Bureau).

Extremes.--Maximum contents observed during year, 22,030 acre-ft Jan. 28 (elevation, 862.34 ft); minimum observed, 15,140 acre-ft Sept. 30 (elevation, 845.40).

1961-67: Maximum contents observed, 23,660 acre-ft Dec. 22, 1964 (elevation, 866.00 ft); no contents at times during low-flow periods.

Remarks.--Reservoir is formed by earth and rock-fill dam with concrete spillway built by Portland Water Bureau. Storage began about Dec. 20, 1961; first filling occurred Dec. 24, 1961. Capacity, 20,990 acre-ft at crest of spillway (elevation, 860.0 ft). Dead storage negligible. Water is used for power generation by Portland General Electric Co. and for municipal supply of city of Portland. Figures given herein represent total contents.

Cooperation.--Elevations and capacity table furnished by Portland Water Bureau.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	858.00	20,120	-
Oct. 31	853.80	18,320	-1,800
Nov. 30	860.32	21,140	+2,820
Dec. 31	860.60	21,260	+120
Calendar year 1966	-	-	+3,900
Jan. 31	860.90	21,400	+140
Feb. 28	860.48	21,210	-190
Mar. 31	860.46	21,200	-10
Apr. 30	860.05	21,020	-180
May 31	860.66	21,290	+270
June 30	859.82	20,920	-370
July 31	859.46	20,760	-160
Aug. 31	858.78	20,460	-300
Sept. 30	845.40	15,140	-5,320
Water year 1966-67	-	-	-4,980

† Elevation at 0800 hrs.

14-1400. Bull Run River near Bull Run, Oreg.

Location.--Lat 45°26'15", long 122°10'40", in NE¼SW¼ sec.34, T.1 S., R.5 E., on left bank 1.8 miles downstream from Bull Run Reservoir No. 2, 2.7 miles northeast of Bull Run, and at mile 4.7.

Drainage area.--107 sq mi.

Records available.--September 1907 to September 1967. Records for January 1895 to August 1907, published in WSP 370, have been found to be unreliable and should not be used.

Gage.--Digital water-stage recorder. Datum of gage is 567.90 ft above mean sea level (levels by Portland Water Bureau). Prior to July 27, 1909, staff gage at site 1.5 miles upstream at different datum. July 27, 1909, to Sept. 30, 1959, graphic water-stage recorder at site 2.5 miles upstream at different datums. Oct. 1, 1959, to June 7, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--60 years, 760 cfs (550,200 acre-ft per year), adjusted for storage in Lake Ben Morrow since 1929 and Bull Run Reservoir No. 2 since 1961.

Extremes.--Maximum discharge during year, 7,690 cfs Jan. 13; minimum daily, 117 cfs Sept. 4, 12.

1907-67: Maximum discharge, 25,100 cfs Dec. 22, 1964 (gage height, 17.21 ft), from rating curve extended above 8,800 cfs on basis of computation of peak flow over dam; minimum daily, 63 cfs Aug. 13-16, 1926.

Remarks.--Records good. Water stored since 1915 in Bull Run Lake (capacity, 12,270 acre-ft) and since 1958 in North Fork Reservoir (capacity, 1,030 acre-ft). Flow regulated since 1929 by Lake Ben Morrow and since 1961 by Bull Run Reservoir No. 2. All records given herein include flow diverted from Bull Run Reservoir No. 2 for city of Portland and that used by Portland General Electric Co. for power generation, which returns to Bull Run River below station. Total diversion, 212,900 acre-ft, of which 100,500 acre-ft was used for power generation and returned to Bull Run River.

Cooperation.--Records of daily diversion furnished by Portland Water Bureau.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	345	424	718	1,460	1,350	1,070	498	344	505	280	264	244
2	294	420	607	1,490	1,320	1,070	481	334	450	284	264	198
3	316	360	652	2,540	1,260	1,030	465	328	390	293	297	172
4	317	408	828	2,410	1,210	1,010	493	333	437	215	293	117
5	334	421	1,050	1,860	1,190	988	494	341	394	254	262	131
6	333	421	1,130	1,440	1,140	967	466	418	303	269	234	220
7	319	420	1,080	1,260	1,110	946	381	426	372	253	223	168
8	302	420	892	1,200	1,080	859	243	681	398	191	213	245
9	306	432	772	1,170	1,050	612	248	931	301	180	246	184
10	301	455	1,270	1,140	1,050	617	201	736	299	247	329	171
11	314	453	1,880	1,260	1,030	658	156	740	306	269	283	156
12	316	456	2,780	1,320	1,010	642	147	677	253	310	251	117
13	303	452	5,340	5,140	1,070	638	130	558	220	291	238	138
14	281	456	3,850	5,110	1,040	580	271	577	241	198	272	179
15	268	912	2,070	3,480	1,040	534	273	545	218	227	317	314
16	256	911	1,450	2,920	1,100	613	274	611	298	261	339	334
17	252	913	1,230	2,040	1,880	603	278	797	321	246	305	326
18	260	911	944	1,490	1,950	791	280	920	262	255	302	319
19	249	910	842	1,390	1,730	734	289	822	272	226	283	291
20	271	910	1,000	2,260	1,400	720	284	720	313	262	245	299
21	174	802	911	1,750	1,220	769	280	757	199	253	265	313
22	153	682	783	1,350	1,160	847	274	898	367	243	262	295
23	141	587	660	1,200	799	972	270	734	377	271	289	298
24	298	524	648	1,150	511	1,100	274	649	328	246	268	266
25	399	749	711	1,120	1,020	1,060	271	535	308	250	245	188
26	423	1,200	624	1,240	1,010	1,030	270	409	276	276	262	185
27	434	865	568	3,110	994	988	302	396	244	257	250	198
28	421	771	674	5,270	1,020	1,000	352	446	241	266	241	185
29	417	667	1,020	3,440		962	335	511	281	269	299	186
30	440	664	1,180	2,630	- - - - -	780	361	867	230	253	266	130
31	418	- - - - -	1,240	1,740	- - - - -	602	- - - - -	898	- - - - -	217	260	- - - - -
Total	9,655	18,976	39,404	66,380	32,744	25,792	9,341	18,939	9,404	7,812	8,367	6,567
Mean	311	633	1,271	2,141	1,169	832	311	611	313	252	270	219
Max	440	1,200	5,340	5,270	1,950	1,100	498	931	505	310	339	334
Min	141	360	568	1,120	511	534	130	328	199	180	213	117
Ac-ft	19,150	37,640	78,160	131,700	64,950	51,160	18,530	37,560	18,650	15,490	16,600	13,030

Adjusted for change in contents in Lake Ben Morrow and Bull Run Reservoir No. 2

Mean	510	725	1,262	2,161	1,089	758	478	637	313	130	82.1	77.1
Cfsm	4.77	6.78	11.8	20.2	10.2	7.08	4.47	5.95	2.93	1.21	.77	.72
In.	5.49	7.56	13.6	23.3	10.6	8.16	4.98	6.86	3.26	1.40	.88	.80
Ac-ft	31,350	43,120	77,590	132,900	60,500	46,580	28,420	39,170	18,630	7,990	5,050	4,590

Observed									Adjusted							
Cal yr 1966:	Total	255,315	Max	5,340	Min	141	Mean	699	Ac-ft	506,400	Mean	721	Cfsm	6.74	In.	91.42	Ac-ft	521,700
Wat yr 1967:	Total	253,381	Max	5,340	Min	117	Mean	694	Ac-ft	502,600	Mean	685	Cfsm	6.40	In.	86.90	Ac-ft	495,900

14-1415. Little Sandy River near Bull Run, Oreg.

Location.--Lat 45°24'55", long 122°10'20", in NE¼ sec.10, T.2 S., R.5 E., on right bank 0.2 mile upstream from Portland General Electric Co. dam and tunnel from Sandy River, 3.0 miles east of Bull Run, and at mile 1.9.

Drainage area.--22.3 sq mi.

Records available.--May to July 1911, October 1911 to March 1912, June 1912 to April 1913, July 1919 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 712 ft above mean sea level (topographic survey of 1954). May 23, 1911, to Apr. 29, 1913, staff gage at site 0.8 mile downstream at different datum. July 1, 1919, to Sept. 30, 1931, graphic water-stage recorder at present site at datum 0.28 ft higher. Oct. 1, 1931, to June 11, 1963; graphic water-stage recorder at present site and datum.

Average discharge.--48 years (1919-67), 145 cfs (105,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,030 cfs Jan. 13 (gage height, 6.59 ft); minimum, 8.9 cfs Sept. 25, 26, 28.

1911-13, 1919-67: Maximum discharge, 5,320 cfs Nov. 20, 1921 (gage height, 9.18 ft, present datum), from rating curve extended above 2,200 cfs by logarithmic plotting; minimum, 8 cfs Aug. 20, Sept. 16, 17, 1940.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	18	83	123	377	228	160	97	97	117	39	17	13
2	44	71	108	278	247	150	95	94	119	37	16	13
3	29	62	99	447	212	130	98	99	107	35	16	13
4	24	54	140	368	218	120	105	109	100	33	16	13
5	21	92	155	284	208	110	107	110	96	32	16	13
6	20	150	164	234	169	110	101	125	88	31	16	13
7	29	108	155	195	146	100	104	138	78	30	16	13
8	65	95	136	171	133	110	108	156	71	29	16	13
9	42	111	130	160	125	130	102	169	66	28	15	12
10	32	275	289	157	138	120	99	133	63	27	15	13
11	29	418	321	281	132	110	96	128	65	26	15	27
12	38	565	474	315	127	100	95	132	60	25	15	23
13	52	352	695	1,630	152	95	125	117	56	24	14	15
14	40	570	494	864	131	90	110	121	52	23	14	14
15	33	449	302	633	126	95	98	137	49	23	14	13
16	30	443	229	447	200	110	96	167	46	22	14	13
17	31	331	182	321	878	130	91	182	44	21	14	13
18	29	239	156	251	585	160	96	161	41	21	14	13
19	27	188	145	273	319	140	91	157	39	21	14	13
20	82	159	211	341	230	130	89	172	43	21	14	13
21	84	130	160	267	182	140	86	172	64	20	13	13
22	508	111	135	213	155	150	84	157	170	20	13	13
23	359	98	125	180	140	215	85	131	109	19	14	12
24	194	87	123	157	130	181	91	109	84	19	13	12
25	125	183	132	143	130	154	105	94	70	19	13	12
26	135	177	118	288	120	141	105	91	62	19	13	12
27	130	131	110	708	120	129	103	92	57	19	13	12
28	98	114	114	797	130	123	93	101	51	18	13	12
29	85	102	159	518	------	118	87	136	46	17	13	14
30	138	104	198	388	------	110	98	178	43	17	13	18
31	102	------	314	278	------	102	------	135	------	17	13	------
TOTAL	2,673	6,052	6,396	11,964	5,811	3,963	2,940	4,100	2,156	752	445	416
MEAN	86.2	202	206	386	208	128	98.0	132	71.9	24.3	14.4	13.9
MAX	508	570	695	1,630	878	215	125	182	170	39	17	27
MIN	18	54	99	143	120	90	84	91	39	17	13	12
CFSM	3.87	9.05	9.25	17.3	9.31	5.73	4.39	5.93	3.22	1.09	.64	.62
IN.	4.46	10.1	10.7	20.0	9.69	6.61	4.90	6.84	3.60	1.25	.74	.69
AC-FT	5,300	12,000	12,690	23,730	11,530	7,860	5,830	8,130	4,280	1,490	883	825

CAL YR 1966: TOTAL 50,153 MEAN 137 MAX 895 MIN 14 CFSM 6.16 IN 83.64 AC-FT 99,480
WAT YR 1967: TOTAL 47,668 MEAN 131 MAX 1,630 MIN 12 CFSM 5.86 IN 79.50 AC-FT 94,550

Peak discharge (base, 1,400 cfs).--Jan. 13 (1900 hrs) 2,030 cfs (6.59 ft).

14-1447. Columbia River at Vancouver, Wash.

Location.--Lat 45°37'15", long 122°40'20", in NE¼NW¼ sec.34, T.2 N., R.1 E., near right bank in control house of Interstate Highway 5 bridge at south edge of Vancouver, 5.0 miles upstream from Willamette River, and at mile 106.5.

Drainage area.--241,000 sq mi, approximately.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Auxiliary digital water-stage recorder 4.7 miles upstream on left bank. Datum of both gages is mean sea level, datum of 1929, supplementary adjustment of 1947.

Extremes.--Maximum daily discharge during year, 640,000 cfs June 10, 11, 20, 21; maximum recorded gage height, 23.32 ft June 26; minimum daily discharge, 87,100 cfs Oct. 5.

1963-67: Maximum daily discharge, 675,000 cfs June 19, 1964; maximum gage height, 29.42 ft Dec. 25, 1964 (backwater from Willamette River); minimum daily discharge, 78,900 cfs Nov. 22, 1964.

Flood of June 7, 1894, reached a stage of 36.2 ft, present datum, from information by Corps of Engineers.

Flood of June 13, 14, 1948, reached a stage of 32.8 ft, present datum, from Weather Bureau records.

Remarks.--Records good. Daily discharge determined by the solution of a mathematical model for transient river flow using a digital computer. Some regulation by Franklin D. Roosevelt Lake and by reservoirs in Kootenai, Flathead, Pend Oreille, Spokane, Chelan, Yakima, Snake and Deschutes River basins. Diurnal fluctuations caused by powerplant and gates at Bonneville Dam and tides. Many diversions for irrigation above station. Records of water temperatures, chemical analyses and suspended sediment loads for the water year 1967 are published in Part 2 of this report.

Discharge in thousands of cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	99.0	107	114	215	146	173	145	463	590	198	151
2	104	96.9	105	115	194	144	171	145	467	577	224	128
3	96.1	97.9	105	113	170	155	154	148	483	563	242	117
4	92.3	106	107	138	160	154	150	142	517	537	237	110
5	87.1	103	121	150	160	149	148	146	539	529	248	116
6	98.4	109	134	154	160	135	145	137	551	495	235	120
7	104	103	137	152	160	136	149	147	572	488	210	108
8	102	105	141	149	160	136	153	142	608	494	201	108
9	111	101	136	149	144	147	162	152	620	461	201	129
10	107	104	115	138	148	148	151	175	640	448	194	126
11	105	99.6	117	132	154	153	155	182	640	431	177	130
12	109	110	123	137	147	118	146	230	630	408	153	118
13	117	107	128	155	146	138	164	222	630	385	152	130
14	129	112	156	150	147	130	171	217	630	370	160	129
15	125	126	155	150	150	148	154	199	637	360	171	128
16	109	125	158	164	160	145	135	189	638	362	158	131
17	102	118	142	162	160	149	144	212	630	344	180	130
18	101	136	138	158	155	152	146	227	630	324	176	114
19	99.7	123	128	148	145	138	190	239	630	314	192	111
20	89.7	124	130	168	147	140	186	252	640	319	158	139
21	106	109	133	158	137	145	181	288	640	306	172	134
22	102	107	131	149	136	143	166	311	630	293	184	139
23	113	114	128	148	138	147	136	340	630	286	177	140
24	105	125	140	139	140	167	143	400	620	272	161	120
25	96.6	115	136	148	146	179	163	456	620	269	119	123
26	95.1	109	119	146	148	161	189	467	630	265	140	126
27	96.6	97.8	105	155	132	159	164	464	630	277	140	134
28	97.1	93.3	111	168	133	156	169	422	630	267	150	99
29	93.1	96.9	110	165		157	166	445	620	270	150	120
30	94.6	96.5	127	185	- - - - -	164	159	453	610	265	174	120
31	100	- - - - -	125	212	- - - - -	162	- - - - -	462	- - - - -	231	177	- - - - -
Total	3,189.4	3,268.9	3,948	4,669	4,292	4,601	4,783	8,156	18,055	11,800	5,611	3,728
Mean	102.9	109.0	127.4	150.6	153.3	148.4	159.4	263.1	601.8	380.6	181.0	124.3
Max	129	136	158	212	215	179	190	467	640	590	248	151
Min	87.1	93.3	105	113	132	118	135	137	463	231	119	99.0
Ac-ft	6,326	6,484	7,831	9,261	8,513	9,126	9,487	16,180	35,810	23,400	11,130	7,394

Cal yr 1966 : Total 63,067.2 Mean 172.8 Max 415 Min 87.1 Ac-ft 125,100
Wtr yr 1967 : Total 76,101.3 Mean 208.5 Max 640 Min 87.1 Ac-ft 150,900

Note.--All figures expressed in thousands.

14-1448. Middle Fork Willamette River near Oakridge, Oreg.

Location.--Lat 43°35'50", long 122°27'20" in NE¼ sec.9, T.23 S., R.3 E., on right bank 0.2 mile upstream from Windfall Creek, 8.3 miles upstream from Hills Creek Dam, 10 miles south of Oakridge, and at mile 240.8. Prior to June 21, 1967 at site 0.5 mile upstream.

Drainage area.--258 sq mi.

Records available.--October 1958 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,561.83 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Corps of Engineers). Prior to June 21, 1967, graphic water-stage recorder 0.5 mile upstream at different datums.

Average discharge.--9 years, 779 cfs (564,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,740 cfs Jan. 28 (gage height, 7.90 ft), from rating curve extended above 4,100 cfs; minimum, 235 cfs Sept. 26-29.

1958-67: Maximum discharge, 39,800 cfs Dec. 22, 1964 (gage height, 16.96 ft, from floodmark, site and datum then in use), from rating curve extended above 5,100 cfs on basis of slope-area measurement of peak flow; maximum gage height at present site 11.3 ft Dec. 22, 1964; minimum discharge, 210 cfs Oct. 3, 4, 1960.

Remarks.--Records fair Oct. 1 to June 23 and excellent thereafter. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	242	263	1,140	585	1,600	750	700	585	986	585	310	265
2	240	266	1,140	560	1,400	764	650	595	968	550	307	262
3	240	263	998	645	1,210	710	600	615	962	538	307	262
4	240	260	1,190	680	1,140	670	600	680	1,020	510	304	262
5	240	263	1,340	655	1,070	650	600	734	1,090	490	301	259
6	240	290	1,180	620	986	625	600	794	1,120	466	301	259
7	240	275	1,130	590	920	610	600	980	1,070	442	301	259
8	240	269	950	565	866	600	600	1,300	1,020	426	301	259
9	240	269	926	560	824	620	600	1,600	1,000	410	295	259
10	240	462	1,400	605	794	640	600	1,400	974	402	295	259
11	238	1,050	1,700	758	758	610	600	1,180	914	394	304	331
12	252	1,220	2,800	842	734	595	550	1,090	902	387	295	295
13	269	855	3,000	1,160	746	585	550	980	866	383	292	271
14	250	2,400	2,200	1,100	740	570	550	980	890	373	289	265
15	248	4,000	1,800	992	716	575	550	1,120	902	366	283	262
16	242	2,400	1,600	944	740	800	550	1,500	974	359	283	259
17	242	1,360	1,500	830	998	900	550	2,000	1,020	355	283	262
18	242	1,040	1,300	776	1,100	850	600	1,900	1,040	352	283	271
19	242	1,050	1,200	800	950	800	610	1,800	1,040	346	280	262
20	349	1,900	1,090	1,440	900	850	605	1,900	1,010	343	274	259
21	400	1,700	920	1,400	850	900	600	2,000	950	340	274	259
22	626	1,400	900	1,160	800	950	600	2,000	800	337	274	256
23	540	1,020	850	926	750	1,100	590	1,900	730	334	271	253
24	416	842	800	830	750	950	585	1,800	715	328	271	250
25	360	788	752	764	750	900	610	1,400	700	328	271	250
26	324	842	695	2,000	700	850	615	1,180	685	325	271	247
27	308	752	645	3,000	700	800	635	1,160	655	325	271	235
28	293	848	620	5,000	700	750	630	1,180	615	319	274	235
29	287	908	605	3,400	------	750	615	1,210	600	319	271	241
30	281	878	590	2,600	------	700	610	1,160	595	316	265	256
31	275	------	575	2,000	------	700	------	1,050	------	310	265	------
TOTAL	9,086	30,133	37,536	38,787	25,192	23,124	17,955	39,773	26,813	12,058	8,866	7,824
MEAN	293	1,004	1,211	1,251	900	746	599	1,283	894	389	286	261
MAX	626	4,000	3,000	5,000	1,600	1,100	700	2,000	1,120	585	310	331
MIN	238	260	575	560	700	570	550	585	595	310	265	235
CFSM	1.14	3.89	4.69	4.85	3.49	2.89	2.32	4.97	3.46	1.51	1.11	1.01
IN.	1.31	4.34	5.41	5.59	3.63	3.33	2.59	5.73	3.87	1.74	1.28	1.13
AC-FT	18,020	59,770	74,450	76,930	49,970	45,870	35,610	78,890	53,180	23,920	17,590	15,520

CAL YR 1966: TOTAL 271,820 MEAN 745 MAX 5,120 MIN 238 CFSM 2.89 IN 39.18 AC-FT 539,100
WAT YR 1967: TOTAL 277,147 MEAN 759 MAX 5,000 MIN 235 CFSM 2.94 IN 39.95 AC-FT 549,700

Peak discharge (base, 3,500 cfs).--Nov. 15 (0730 hrs) 4,680 cfs (7.21 ft); Jan. 28 (0530 hrs) 5,740 cfs (7.90 ft).

Note.--No gage-height record Jan. 26 to Feb. 2, Mar. 16 to Apr. 18.

14-1449. Hills Creek above Hills Creek Reservoir, near Oakridge, Oreg.

Location.--Lat 43°40'50", long 122°22'10", in NW¼NW¼ sec.8, T.22 S., R.4 E., on right bank 0.2 mile downstream from Tufti Creek, 0.7 mile upstream from Hills Creek Reservoir, 6.5 miles southeast of Oakridge, and at mile 4.1.

Drainage area.--52.7 sq mi.

Records available.--October 1958 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,630.80 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Aug. 10, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--9 years, 143 cfs (103,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,600 cfs Jan. 28 (gage height, 6.22 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement at gage height 12.23 ft; minimum, 16 cfs Oct. 10, 11.

1958-67: Maximum discharge, 10,700 cfs Dec. 22, 1964 (gage height, 12.23 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of peak flow; minimum, 14 cfs Nov. 1, 1958.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	27	241	110	328	130	116	93	187	75	30	21
2	19	26	216	106	262	140	113	94	183	70	29	21
3	19	25	191	113	219	129	114	109	177	65	29	21
4	18	24	218	139	195	121	117	127	187	60	29	21
5	18	24	230	145	170	115	120	138	199	56	28	21
6	18	33	205	149	160	110	119	156	201	53	28	21
7	17	27	195	147	150	105	118	199	185	51	28	21
8	17	26	185	148	140	101	120	274	172	49	28	21
9	17	28	181	152	130	104	115	335	161	46	28	21
10	17	85	388	169	130	105	116	288	152	45	28	21
11	18	178	423	190	120	96	110	227	144	45	28	44
12	24	264	665	201	120	92	106	195	142	44	27	33
13	28	173	728	283	140	91	108	178	142	43	26	25
14	23	506	551	250	130	88	108	176	153	42	26	23
15	22	981	378	225	120	93	106	209	162	40	26	22
16	21	660	326	203	154	175	107	313	173	40	25	21
17	21	335	280	191	207	192	109	431	177	39	25	21
18	20	213	240	189	237	182	116	419	177	38	25	23
19	19	238	209	190	193	167	118	378	177	38	24	22
20	44	402	197	388	170	175	113	398	166	37	24	21
21	47	339	186	341	160	180	112	438	151	37	24	21
22	98	258	169	223	140	188	112	423	152	36	24	21
23	96	198	155	192	130	239	113	361	127	35	23	21
24	69	179	142	190	130	208	110	276	117	34	23	21
25	54	166	140	188	130	181	117	221	112	33	23	19
26	46	184	130	353	120	163	119	198	108	33	23	19
27	40	164	122	641	120	148	116	191	99	32	23	19
28	35	173	118	1,290	120	140	110	210	90	32	22	19
29	32	185	115	835	------	131	104	233	84	32	22	21
30	30	183	112	581	------	126	98	215	80	31	22	26
31	29	------	107	437	------	121	------	189	------	31	21	------
TOTAL	995	6,304	7,743	8,959	4,525	4,336	3,380	7,692	4,537	1,342	791	672
MEAN	32.1	210	250	289	162	140	113	248	151	43.3	25.5	22.4
MAX	98	981	728	1,290	328	239	120	438	201	75	30	44
MIN	17	24	107	106	120	88	98	93	80	31	21	19
CFSM	.61	3.99	4.74	5.48	3.07	2.65	2.14	4.71	2.87	.82	.48	.43
IN.	.70	4.45	5.46	6.32	3.19	3.06	2.39	5.43	3.20	.95	.56	.47
AC-FT	1,970	12,500	15,360	17,770	8,980	8,600	6,700	15,260	9,000	2,660	1,570	1,330

CAL YR 1966: TOTAL 49,991 MEAN 137 MAX 1,780 MIN 17 CFSM 2.60 IN 35.28 AC-FT 99,160
WAT YR 1967: TOTAL 51,276 MEAN 140 MAX 1,290 MIN 17 CFSM 2.67 IN 36.19 AC-FT 101,700

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	0600	5.67	1,200	1- 28	0630	6.22	1,600
12-13	1300	4.94	776				

14-1451. Hills Creek Reservoir near Oakridge, Oreg.

Location.--Lat 43°42'30", long 122°25'25", in NW¼ sec.35, T.21 S., R.3 E., near right end of Hills Creek Dam on Middle Fork Willamette River, 600 ft downstream from Hills Creek, 3.5 miles southeast of Oakridge, and at mile 232.5.

Drainage area.--389 sq mi.

Records available.--August 1961 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 352,100 acre-ft June 22 (elevation, 1,541.56 ft); minimum, 154,300 acre-ft Dec. 4 (elevation, 1.446.95 ft).

1961-67: Maximum contents, 353,600 acre-ft July 9, 10, 1962 (elevation, 1,542.11 ft); minimum, since first filling, 143,400 acre-ft Dec. 11, 1963 (elevation, 1,439.98 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway completed in 1961 by the Corps of Engineers; storage began August 1961. Total capacity is 356,000 acre-ft and usable capacity is 249,000 acre-ft between elevations 1,414.0 (minimum power pool) and 1,543.0 ft (top of spillway gates). Reservoir used for flood control and power generation. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,446	152,800
1,460	175,800
1,480	211,000
1,500	251,800
1,520	296,800
1,542	353,300

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	229.600	186.900	155.900	155.600	204.900	217.300	264.100	272.000	339.800	350.500	344.600	320.300
2	227.100	185.500	154.700	155.700	206.200	218.600	265.200	272.800	339.600	350.500	343.800	318.600
3	224.700	184.100	154.400	156.100	205.400	219.900	265.900	273.800	340.100	350.500	343.200	317.800
4	222.800	182.700	155.800	156.400	202.400	221.000	267.000	274.900	340.800	350.400	342.500	315.400
5	222.200	181.300	157.200	156.200	199.000	222.000	268.200	276.200	340.800	350.300	341.800	313.800
6	219.700	179.900	157.500	156.100	195.000	222.900	269.300	277.600	341.000	350.400	341.000	312.100
7	218.200	178.600	157.700	155.900	190.700	223.800	270.400	279.600	340.900	350.400	340.300	310.400
8	216.800	177.100	157.500	155.800	186.800	224.600	271.500	282.300	340.800	350.400	339.600	308.700
9	215.300	175.600	156.900	155.700	186.200	225.600	272.600	285.900	340.900	350.400	338.900	307.100
10	213.800	174.800	158.000	156.000	187.500	226.800	273.600	289.100	341.800	350.400	338.400	305.400
11	212.300	176.100	158.500	156.600	188.800	227.700	274.600	291.800	342.800	350.400	337.700	304.000
12	210.900	177.800	161.800	156.900	190.000	228.600	275.500	294.200	343.500	350.400	337.000	302.500
13	209.500	178.300	166.000	158.500	191.400	229.400	274.200	296.200	344.200	350.400	336.200	300.900
14	208.100	184.000	168.700	159.800	192.600	230.200	277.400	298.100	344.900	350.400	335.500	299.300
15	206.800	193.900	168.700	160.600	193.800	231.200	278.500	300.400	345.700	350.300	334.700	297.700
16	205.300	199.400	167.600	162.100	195.100	233.200	279.600	303.700	346.600	350.300	333.880	296.100
17	204.000	200.600	166.200	163.500	197.600	235.500	280.700	308.200	347.600	350.300	333.100	294.500
18	202.500	200.600	164.400	162.700	200.800	237.600	281.700	312.600	348.900	350.200	332.400	292.800
19	201.100	200.500	162.400	162.000	203.100	239.500	282.900	316.900	349.800	350.100	331.500	291.300
20	200.100	202.900	159.800	165.300	205.000	241.400	283.000	321.200	350.800	350.100	330.800	289.700
21	199.100	204.700	156.500	168.300	206.600	243.600	281.900	325.900	351.700	349.800	330.000	288.000
22	198.900	203.000	155.300	169.100	207.900	245.900	280.900	330.600	352.100	349.700	329.200	286.400
23	198.300	199.000	155.400	168.000	209.300	248.800	279.800	334.900	351.900	349.500	328.400	284.700
24	197.300	194.400	155.500	165.900	210.700	251.400	278.700	337.100	351.800	349.400	327.500	283.000
25	196.200	189.200	155.700	164.000	212.200	253.800	277.700	337.800	352.000	348.900	326.800	281.300
26	195.000	183.000	155.800	166.700	213.500	255.800	276.700	338.200	351.700	348.400	326.000	279.600
27	193.700	176.200	155.800	173.200	214.700	257.500	275.800	338.400	351.300	347.900	325.200	277.800
28	192.400	168.200	155.600	187.200	215.900	259.000	274.700	338.900	350.900	347.300	324.400	275.900
29	191.000	161.600	155.600	195.200	----------	260.400	273.600	339.400	350.500	346.700	323.500	273.600
30	189.600	158.600	155.500	199.700	----------	261.700	272.500	339.800	350.500	346.000	322.700	271.500
31	188.200	----------	155.400	202.900	----------	262.900	----------	339.900	----------	345.300	322.000	----------
Max	229,600	204,700	168,700	202,900	215,900	262,900	283,000	339,900	352,100	350,500	344,600	320,300
Min	188,200	158,600	154,400	155,600	186,200	217,300	264,100	272,000	339,600	345,300	322,000	271,500
(†)	1,467.32	1,449.62	1,447.64	1,475.52	1,482.57	1,505.05	1,509.40	1,537.04	1,540.95	1,539.03	1,530.21	1,508.94
(‡)	-44,000	-29,600	-3,200	+47,500	+13,000	+47,000	+9,600	+67,400	+10,600	-5,200	-23,300	-50,500

Cal yr 1966: Max 347,300 Min 155,800 Ac-ft ‡ -500
Wtr yr 1967: Max 352,100 Min 154,400 Ac-ft ‡ +39,300

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1455. Middle Fork Willamette River above Salt Creek, near Oakridge, Oreg.

Location.--Lat 43°43'20", long 122°26'15", in NW¼NE¼ sec.27, T.21 S., R.3 E., on right bank 90 ft upstream from highway bridge, 0.4 mile upstream from Salt Creek, 1.1 miles downstream from Hills Creek Dam, 2.3 miles southeast of Oakridge, and at mile 231.4.

Drainage area.--392 sq mi.

Records available.--October 1913 to September 1914, September 1935 to September 1967. Monthly discharge only September 1935, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,208.01 ft above mean sea level (levels by Corps of Engineers). Oct. 3, 1913, to Sept. 30, 1914, staff gage and Sept. 1, 1935, to Aug. 18, 1960, graphic water-stage recorder, at sites 400 and 1,000 ft downstream, respectively, at different datums. Aug. 19, 1960 to July 13, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--33 years, 1,138 cfs (823,900 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year 5,860 cfs Nov. 28 (gage height, 6.81 ft); minimum observed, 5 cfs Aug. 10.

1913-14, 1935-67: Maximum discharge, 34,000 cfs Dec. 28, 1945 (gage height, 12.06 ft, site and datum then in use), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum observed, 0.70 cfs Sept. 8-11, 13, 1961.

Remarks.--Records excellent. Flow regulated since 1961 by Hills Creek Reservoir (see sta. no. 1451). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,550	998	3,010	655	1,460	299	303	1,010	1,270	610	665	928
2	1,560	995	2,320	630	1,310	306	306	317	1,290	610	665	1,060
3	1,560	1,000	1,570	620	2,150	317	522	320	944	610	650	1,060
4	1,220	1,010	1,460	872	3,200	317	313	320	848	600	645	1,050
5	1,020	1,010	1,680	1,090	3,240	317	313	320	1,290	522	645	1,060
6	1,010	1,000	1,830	902	3,430	313	324	317	1,290	478	645	1,060
7	1,010	1,000	1,770	902	3,410	317	331	317	1,290	482	645	1,060
8	1,010	1,000	1,720	830	3,240	313	320	317	1,300	446	660	1,060
9	1,020	1,000	1,700	800	1,530	331	320	324	1,090	442	640	1,060
10	1,020	1,030	2,360	794	345	292	320	320	680	442	480	1,060
11	1,010	1,040	2,820	952	327	320	320	310	660	442	640	1,060
12	1,010	1,030	2,810	1,270	299	310	313	296	655	438	640	1,070
13	1,010	1,030	2,650	1,240	306	390	355	289	655	434	635	1,060
14	1,010	1,060	2,670	1,200	310	345	306	299	660	430	640	1,060
15	994	1,270	2,850	1,190	310	313	299	296	660	414	675	1,070
16	993	1,700	2,870	685	313	276	296	299	655	406	660	1,060
17	993	1,680	2,750	605	317	338	292	313	660	402	660	1,060
18	1,010	1,630	2,710	1,500	313	331	355	324	655	434	660	1,060
19	1,010	1,610	2,670	1,560	306	331	303	310	655	446	650	1,060
20	1,010	1,580	2,820	1,580	317	331	818	296	655	450	655	1,060
21	1,010	1,580	2,950	1,590	324	327	1,360	296	660	450	655	1,060
22	1,010	2,920	1,830	1,590	320	324	1,350	292	818	454	655	1,070
23	1,010	3,710	960	2,010	317	324	1,350	296	984	450	645	1,080
24	1,010	3,730	902	2,360	313	310	1,360	872	860	450	650	1,090
25	1,010	3,840	842	2,110	310	295	1,380	1,280	685	562	650	1,090
26	1,010	4,700	824	1,550	303	313	1,410	1,270	902	582	645	1,090
27	1,000	4,740	824	1,650	306	317	1,390	1,290	936	578	645	1,080
28	1,000	5,260	824	1,690	306	313	1,390	1,290	914	586	645	1,240
29	1,000	4,780	752	1,660	------	303	1,390	1,290	836	640	670	1,350
30	997	2,760	746	1,640	------	299	1,400	1,290	660	655	660	1,340
31	992	------	705	1,590	------	310	------	1,270	------	655	660	------
TOTAL	33,079	61,693	59,199	39,317	28,932	9,846	20,809	17,650	26,117	15,600	20,035	32,568
MEAN	1,067	2,056	1,910	1,268	1,033	318	694	569	871	503	646	1,086
MAX	1,560	5,260	3,010	2,360	3,430	390	1,410	1,290	1,300	655	675	1,350
MIN	992	995	705	605	299	276	292	289	655	402	480	928
AC-FT	65,610	122,400	117,400	77,980	57,390	19,530	41,270	35,010	51,800	30,940	39,740	64,600

Adjusted for change in contents in Hills Creek Reservoir

Mean	351	1,391	1,857	2,041	1,267	1,082	855	1,666	1,049	419	267	237
Cfsm	0.895	3.55	4.74	5.21	3.23	2.76	2.18	4.25	2.68	1.07	0.681	0.605
In.	1.03	3.96	5.46	6.00	3.37	3.18	2.43	4.90	2.98	1.23	0.79	0.67
Ac-ft	21,610	82,800	114,200	125,480	70,390	66,530	50,870	102,410	62,400	25,740	16,440	14,100

Observed

Cal yr 1966: Total 393,782 Mean 1,079 Max 6,190 Min 264 Ac-ft 781,100
Wat yr 1967: Total 364,845 Mean 1,000 Max 5,260 Min 276 Ac-ft 723,700

Adjusted

Cal yr 1966: Mean 1,078 Cfsm 2.75 In. 37.34 Ac-ft 780,630
Wat yr 1967: Mean 1,054 Cfsm 2.69 In. 36.49 Ac-ft 762,970

14-1465. Salmon Creek near Oakridge, Oreg.

Location.--Lat 43°45'45", long 122°17'20", in NE¼ sec.7, T.21 S., R.4 E., on right bank 190 ft upstream from Salmon Creek Falls, 0.1 mile upstream from Needle Creek, 4.6 miles east of Oakridge and at mile 5.84.

Drainage area.--117 sq mi, at cable 0.6 mile downstream from gage, where all discharge measurements are made.

Records available.--October to November 1909 (gage heights and one discharge measurement only), February 1913 to October 1919, October 1933 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as Kelsey River near Hazeldell and Salmon Creek near Hazeldell, 1909.

Gage.--Digital water-stage recorder. Datum of gage is 1,462.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1914, staff gage at several sites within 4 miles of present site at various datums. Oct. 1, 1914, to Oct. 14, 1919, graphic water-stage recorder at site 1.8 miles downstream at different datum. Oct. 1, 1933, to Oct. 27, 1964, graphic water-stage recorder at site 0.8 mile downstream at datum 40.53 ft lower. Oct. 28, 1964, to Aug. 27, 1965, staff gage 0.6 mile downstream at different datum. Aug. 28, 1965, to May 23, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--40 years (1913-19, 1933-67), 420 cfs (304,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,030 cfs Jan. 28 (gage height, 4.39 ft); minimum, 112 cfs Oct. 10, 11.

1913-19, 1933-67: Maximum discharge, 11,600 cfs Dec. 22, 1964 (gage height, 18.5 ft, from floodmark; 9.15 ft, site and datum then in use), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; minimum, 63 cfs Jan. 8, 1937.

Remarks.--Records good. No regulation or diversion above station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	114	151	446	296	952	433	338	267	537	238	150	127
2	117	147	422	287	822	440	324	265	522	230	149	127
3	117	140	388	399	696	408	321	276	502	221	145	127
4	115	137	470	540	632	386	328	304	532	211	145	127
5	114	142	505	484	586	365	337	331	579	202	145	127
6	114	171	464	422	533	348	332	361	594	198	145	127
7	114	152	446	372	486	338	330	448	547	189	145	127
8	114	144	405	340	458	331	336	606	518	188	144	127
9	114	146	383	335	436	344	327	756	476	183	143	127
10	113	349	610	350	415	348	334	682	458	179	142	129
11	115	831	680	458	395	323	324	592	433	179	141	178
12	137	900	1,000	561	379	309	315	528	426	176	138	148
13	144	679	1,040	1,010	383	306	319	479	422	172	138	135
14	129	1,030	1,000	1,010	370	295	316	474	420	170	138	131
15	125	1,560	856	908	359	298	308	552	428	170	138	129
16	122	1,370	752	861	372	385	302	734	444	168	137	127
17	120	880	652	739	567	438	305	949	461	168	135	127
18	119	638	589	619	749	451	322	965	459	168	135	129
19	118	568	533	577	615	423	324	931	449	163	135	127
20	178	704	498	775	530	412	312	941	430	163	134	126
21	183	645	446	791	474	442	302	990	406	162	133	125
22	498	568	399	626	444	479	293	985	404	160	133	123
23	422	484	372	540	436	605	289	929	356	160	133	123
24	299	410	340	481	433	562	285	806	328	157	133	123
25	239	428	361	427	436	501	296	673	311	155	133	123
26	211	554	325	691	410	458	303	618	301	155	131	122
27	196	477	301	1,070	395	423	303	596	285	155	131	119
28	180	446	283	1,800	396	405	294	632	269	153	131	119
29	169	428	292	1,640	------	387	285	704	255	152	131	121
30	160	405	292	1,320	------	370	277	662	249	150	129	138
31	153	------	274	1,130	------	354	------	583	------	150	127	------
TOTAL	5,163	15,684	15,824	21,859	14,159	12,367	9,381	19,619	12,801	5,445	4,267	3,865
MEAN	167	523	510	705	506	399	313	633	427	176	138	129
MAX	498	1,560	1,040	1,800	952	605	338	990	594	238	150	178
MIN	113	137	274	287	359	295	277	265	249	150	127	119
CFSM	1.42	4.47	4.36	6.03	4.32	3.41	2.67	5.41	3.65	1.50	1.18	1.10
IN.	1.64	4.99	5.03	6.95	4.50	3.93	2.98	6.24	4.07	1.73	1.36	1.23
AC-FT	10,240	31,110	31,390	43,360	28,080	24,530	18,610	38,910	25,390	10,800	8,460	7,670

CAL YR 1966: TOTAL 131,269 MEAN 360 MAX 1,900 MIN 113 CFSM 3.07 IN 41.73 AC-FT 260,400
WAT YR 1967: TOTAL 140,434 MEAN 385 MAX 1,800 MIN 113 CFSM 3.29 IN 44.64 AC-FT 278,500

Peak discharge (base, 1,700 cfs).--Jan. 28 (1130 hrs) 2,030 cfs (4.39 ft).

14-1475. North Fork of Middle Fork Willamette River near Oakridge, Oreg.

Location.--Lat 43°45'30", long 122°30'30", in SW¼ sec.7, T.21 S., R.3 E., on left bank 2.5 miles northwest of Oakridge and at mile 1.0.

Drainage area.--246 sq mi, at measuring section 0.5 mile downstream.

Records available.--October 1909 to March 1916, September 1935 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1912, published as "near Hazeldell."

Gage.--Digital water-stage recorder. Datum of gage is 1,029.6 ft above mean sea level (river-profile survey). Oct. 1, 1909, to Mar. 31, 1916, graphic water-stage recorder or staff gage at several sites within three-quarters of a mile of present site at various datums. Sept. 10, 1935, to Oct. 3, 1938, staff gage, and Oct. 4, 1938, to Mar. 5, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--38 years (1909-15, 1935-67), 784 cfs (567,600 acre-ft per year).

Extremes.--Maximum discharge during year, 5,200 cfs Jan. 28 (gage height, 7.75 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement at gage height 19.14 ft; minimum, 54 cfs July 13.

1909-16, 1935-67: Maximum discharge, 24,400 cfs Dec. 22, 1964 (gage height, 19.14 ft, from floodmark), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum, 22 cfs Aug. 20, 1966.

Remarks.--Records excellent. Slight natural regulation by Waldo Lake; occasional diurnal fluctuations during low-water periods caused by logponds above station. No diversions above station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	125	175	854	650	2,110	883	708	572	843	308	162	118
2	129	171	842	630	1,760	909	681	570	810	294	159	117
3	131	166	765	848	1,500	841	676	589	756	283	156	117
4	126	163	980	1,110	1,340	785	717	634	762	272	154	117
5	124	167	1,090	1,020	1,220	743	725	674	796	302	152	116
6	123	213	1,000	908	1,130	712	707	720	795	257	152	115
7	124	186	968	818	1,040	687	695	827	744	251	148	115
8	124	175	896	755	980	665	707	1,040	715	245	148	115
9	125	173	830	725	922	690	686	1,270	676	239	142	115
10	125	441	1,370	745	877	708	690	1,210	648	233	140	117
11	124	1,620	1,500	962	828	668	673	1,070	619	225	138	193
12	143	1,750	2,320	1,070	787	640	658	995	606	221	136	187
13	178	1,150	2,660	2,190	804	629	656	902	600	177	134	137
14	148	1,850	2,690	2,110	772	611	643	868	586	212	131	127
15	139	2,900	2,050	1,830	766	600	618	942	578	205	130	122
16	136	2,700	1,700	1,750	807	703	607	1,170	592	205	130	119
17	133	1,750	1,450	1,470	1,410	795	607	1,480	565	202	128	120
18	132	1,240	1,260	1,260	1,690	841	625	1,500	566	198	127	123
19	126	1,060	1,130	1,170	1,330	802	614	1,420	546	196	125	120
20	214	1,270	1,060	1,640	1,120	803	597	1,420	522	192	125	120
21	289	1,180	968	1,660	1,020	891	587	1,490	501	190	123	118
22	756	1,030	860	1,340	940	950	579	1,480	533	188	123	116
23	606	884	785	1,150	905	1,180	570	1,390	484	185	123	115
24	389	765	725	1,040	883	1,140	569	1,210	445	182	122	113
25	302	770	780	935	870	1,040	597	1,040	417	180	121	112
26	265	1,040	715	1,520	821	960	626	925	395	178	120	112
27	250	866	655	2,660	783	876	629	878	368	175	122	110
28	218	795	610	4,580	781	836	616	898	354	172	119	110
29	204	760	610	3,950	------	799	608	1,020	339	169	120	113
30	192	730	630	3,080	------	767	591	1,030	323	166	118	134
31	183	------	575	2,600	------	741	------	931	------	164	117	------
TOTAL	6,383	28,140	35,328	48,176	30,196	24,895	19,262	32,165	17,484	6,666	4,145	3,683
MEAN	206	938	1,140	1,554	1,078	803	642	1,038	583	215	134	123
MAX	756	2,900	2,690	4,580	2,110	1,180	725	1,500	843	308	162	193
MIN	123	163	575	630	766	600	569	570	323	164	117	110
CFSM	.84	3.81	4.63	6.32	4.38	3.26	2.61	4.22	2.37	.87	.54	.50
IN.	.96	4.25	5.34	7.28	4.56	3.76	2.91	4.86	2.64	1.01	.63	.56
AC-FT	12,660	55,810	70,070	95,560	59,890	49,380	38,210	63,800	34,680	13,220	8,220	7,310

CAL YR 1966: TOTAL 248,088 MEAN 680 MAX 3,880 MIN 85 CFSM 2.76 IN 37.51 AC-FT 492,100
WAT YR 1967: TOTAL 256,523 MEAN 703 MAX 4,580 MIN 110 CFSM 2.86 IN 38.78 AC-FT 508,800

Peak discharge (base, 3,500 cfs).--Jan. 28 (1100 hrs) 5,200 cfs (7.75 ft).

14-1480. Middle Fork Willamette River below North Fork, near Oakridge, Oreg.

Location.--Lat 43°48'05", long 122°33'35", in SW¼ sec.27, T.20 S., R.2 E., on left bank 0.5 mile downstream from Whitehead Creek, 4.2 miles downstream from North Fork of Middle Fork Willamette River, 7 miles northwest of Oakridge, and at mile 220.2.

Drainage area.--924 sq mi.

Records available.--March 1911 to September 1912, July 1923 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "near Hazeldell" 1911-12 and as "at Eula" 1923-50.

Gage.--Digital water-stage recorder. Datum of gage is 934.76 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 22, 1911, to Sept. 30, 1912, staff gage at site 4 miles upstream, just below North Fork, at different datum. July 1, 1923, to Aug. 11, 1935, staff gage and Aug. 12, 1935, to Sept. 30, 1950, graphic water-stage recorder, at site 4 miles downstream at different datum. Oct. 1, 1950, to June 1, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--45 years, 2,729 cfs (1,976,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,300 cfs Jan. 28 (gage height, 5.42 ft); minimum, 489 cfs Aug. 10 (caused by closing outlet gates at Hills Creek Dam).

1911-12, 1923-67: Maximum discharge, 81,800 cfs Dec. 28, 1945 (gage height, 18.8 ft, from floodmark, site and datum then in use), from rating curve extended above 39,000 cfs by logarithmic plotting; minimum, 322 cfs Aug. 30, 1961, caused by closing outlet gates at Hills Creek Dam.

Maximum stage known since 1861 and prior to beginning of record, 17.0 ft in February 1890 at site used 1923-50, from information by local resident (discharge, about 55,000 cfs).

Remarks.--Records excellent. Flow regulated since 1961, by Hills Creek Reservoir (see sta. no. 1451); slight regulation at times by logponds above station. No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,870	1,510	4,750	2,010	5,450	2,040	1,780	2,320	3,200	1,500	1,160	1,330
2	1,870	1,500	4,180	1,960	4,700	2,090	1,710	1,530	3,150	1,450	1,160	1,500
3	1,870	1,480	3,230	2,250	4,850	1,990	1,890	1,540	2,760	1,420	1,130	1,510
4	1,630	1,480	3,750	3,050	5,660	1,910	1,780	1,620	2,580	1,380	1,130	1,500
5	1,410	1,500	4,250	3,180	5,450	1,830	1,790	1,680	3,230	1,290	1,130	1,510
6	1,390	1,600	4,100	2,820	5,450	1,760	1,780	1,760	3,280	1,190	1,130	1,510
7	1,410	1,540	3,980	2,640	5,300	1,710	1,750	1,960	3,150	1,160	1,130	1,510
8	1,410	1,510	3,850	2,440	5,000	1,670	1,750	2,330	3,080	1,100	1,130	1,500
9	1,410	1,510	3,600	2,350	3,550	1,750	1,700	2,840	2,600	1,080	1,100	1,500
10	1,410	2,180	5,030	2,440	2,060	1,780	1,710	2,760	2,350	1,070	976	1,510
11	1,410	4,080	5,810	2,960	1,960	1,730	1,670	2,420	2,250	1,040	1,100	1,700
12	1,450	4,380	7,100	3,630	1,860	1,680	1,630	2,260	2,200	1,030	1,090	1,670
13	1,530	3,430	7,250	5,750	1,890	1,750	1,680	2,110	2,180	976	1,090	1,570
14	1,470	4,950	7,280	5,510	1,840	1,670	1,620	2,060	2,160	988	1,080	1,530
15	1,440	7,250	6,470	4,880	1,840	1,630	1,570	2,200	2,180	976	1,120	1,530
16	1,420	7,160	5,930	4,280	1,920	1,890	1,560	2,620	2,210	952	1,100	1,530
17	1,410	5,180	5,420	3,430	3,330	2,180	1,570	3,330	2,250	940	1,100	1,540
18	1,420	4,150	5,030	4,030	3,980	2,230	1,680	3,530	2,250	964	1,100	1,540
19	1,410	3,780	4,780	3,900	3,080	2,130	1,650	3,350	2,210	976	1,080	1,530
20	1,600	4,330	4,750	5,180	2,620	2,090	1,990	3,350	2,160	976	1,090	1,540
21	1,780	4,150	4,750	5,480	2,370	2,180	2,620	3,580	2,090	976	1,090	1,530
22	2,600	4,900	3,750	4,650	2,210	2,250	2,600	3,630	2,230	964	1,090	1,530
23	2,440	5,420	2,600	4,450	2,150	2,660	2,580	3,500	2,280	964	1,080	1,530
24	2,030	5,240	2,420	4,530	2,090	2,560	2,580	3,580	2,060	952	1,080	1,540
25	1,810	5,180	2,420	4,080	2,080	2,330	2,640	3,680	1,840	1,050	1,070	1,530
26	1,730	6,560	2,320	4,700	1,980	2,210	2,700	3,400	1,990	1,100	1,070	1,530
27	1,680	6,290	2,210	6,650	1,910	2,080	2,700	3,330	1,980	1,090	1,080	1,530
28	1,620	6,620	2,150	10,200	1,890	2,010	2,680	3,400	1,910	1,090	1,070	1,650
29	1,570	6,350	2,080	8,840	------	1,940	2,660	3,750	1,790	1,140	1,090	1,790
30	1,540	4,400	2,090	7,220	------	1,870	2,620	3,730	1,600	1,160	1,080	1,840
31	1,510	------	1,980	6,470	------	1,840	------	3,450	------	1,160	1,080	------
TOTAL	50,550	119,610	129,310	135,960	88,470	61,440	60,640	86,600	71,200	34,104	34,006	46,560
MEAN	1,631	3,987	4,171	4,386	3,160	1,982	2,021	2,794	2,373	1,100	1,097	1,552
MAX	2,600	7,250	7,280	10,200	5,660	2,660	2,700	3,750	3,280	1,500	1,160	1,840
MIN	1,390	1,480	1,980	1,960	1,840	1,630	1,560	1,530	1,600	940	976	1,330
AC-FT	100,300	237,200	256,500	269,700	175,500	121,900	120,300	171,800	141,200	67,640	67,450	92,350

CAL YR 1966: TOTAL 926,525 MEAN 2,538 MAX 10,500 MIN 609 AC-FT 1,838,000
WAT YR 1967: TOTAL 918,450 MEAN 2,516 MAX 10,200 MIN 940 AC-FT 1,822,000

14-1490. Lookout Point Reservoir near Lowell, Oreg.

Location.--Lat 43°54'50", long 122°45'00", SE¼ sec.13, T.19 S., R.1 W., in elevator house at right end of spillway section of dam on Middle Fork Willamette River, 1.5 miles east of Lowell, and at mile 206.9.

Drainage area.--991 sq mi.

Records available.--November 1953 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Nov. 7, 1953, to Dec. 4, 1954, approximate elevations obtained from reference marks and Dec. 5, 1954, to Feb. 4, 1955, staff gage at same site and datum.

Extremes.--Maximum contents during year, 444,400 acre-ft June 23 (elevation, 926.31 ft); minimum, 112,000 acre-ft Dec. 28 (elevation, 821.70 ft).

1953-67: Maximum contents, 465,100 acre-ft Dec. 26, 1964 (elevation, 931.09 ft); minimum observed since first filling, 91,200 acre-ft Dec. 1, 1954 (elevation, 811 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete gate and spillway section, completed in 1954 by Corps of Engineers. Planned storage began in November 1953. Total capacity is 456,000 acre-ft and usable capacity is 349,400 acre-ft between elevations 819 (proposed lower limit of operation) and 929 ft (top of spillway gates). Reservoir used for flood control, improvement of navigation, power generation, pollution abatement, and other purposes. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

821	110,600	880	267,800
830	129,600	890	302,300
840	152,600	900	338,800
850	178,000	910	377,300
860	205,700	920	417,800
870	235,600	927	447,400

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	336,200	236,800	116,800	113,300	168,300	221,400	264,500	317,100	392,100	443,000	420,700	393,300
2	335,800	233,300	116,900	113,200	161,800	220,600	265,600	317,700	395,800	442,800	420,100	391,700
3	335,400	233,500	115,900	113,800	156,900	220,800	266,900	318,400	397,900	442,700	419,400	389,600
4	333,000	233,900	116,900	116,500	158,000	222,100	267,300	319,100	400,600	442,500	418,700	388,200
5	329,900	234,100	118,800	118,600	158,400	223,300	269,500	320,100	404,300	442,200	417,800	385,700
6	326,800	231,900	120,400	119,700	158,800	224,400	270,700	321,100	408,400	441,700	417,100	382,000
7	323,700	228,600	120,200	120,000	159,200	225,300	271,500	322,600	412,200	441,200	416,400	379,200
8	320,100	223,900	121,000	119,600	162,900	225,200	271,500	324,900	415,900	440,400	415,800	376,200
9	316,400	219,300	121,300	119,100	168,000	225,000	273,500	328,500	419,100	439,700	415,100	372,500
10	312,400	216,400	122,700	119,300	169,600	226,500	274,500	332,000	421,200	439,000	414,200	370,000
11	308,200	217,700	126,100	120,600	171,200	227,800	275,400	334,600	423,200	438,000	413,500	368,000
12	304,400	219,400	131,600	121,300	172,500	229,000	276,300	336,900	425,200	437,400	412,700	364,900
13	300,700	219,200	136,100	126,800	174,000	226,500	276,900	338,700	427,100	436,500	412,000	361,900
14	296,700	223,200	139,900	131,700	175,500	227,500	277,900	340,400	428,900	435,600	411,200	358,600
15	293,300	232,600	138,400	135,000	177,000	228,600	278,600	342,200	430,700	434,700	410,500	355,400
16	289,700	239,900	135,300	136,800	179,000	230,200	279,500	345,100	432,600	433,800	409,700	352,300
17	286,200	237,000	131,600	136,300	184,800	232,600	280,200	349,300	434,600	432,700	408,900	349,300
18	283,300	227,800	126,800	137,700	191,600	232,600	281,100	353,800	436,400	431,800	409,600	346,200
19	280,400	217,700	121,200	136,000	196,400	237,800	282,100	358,200	438,300	430,900	410,300	343,200
20	278,200	208,900	118,700	132,300	199,900	239,800	283,700	362,500	440,200	429,900	408,100	340,200
21	276,000	200,000	118,900	129,500	202,700	242,100	286,800	367,200	441,900	429,100	407,300	337,000
22	275,000	191,000	118,200	124,100	205,300	244,500	289,900	371,900	442,900	428,000	406,600	332,800
23	273,600	180,900	117,200	118,700	207,300	250,300	292,800	373,500	442,500	427,100	405,800	329,700
24	271,700	170,000	115,900	116,000	209,300	251,700	295,900	375,000	441,800	426,100	405,000	326,600
25	266,700	159,000	114,400	114,700	212,000	254,000	299,200	375,000	440,500	425,300	404,300	323,400
26	262,300	147,900	112,800	117,500	214,300	256,200	302,300	373,900	441,800	424,600	403,400	320,300
27	260,900	135,800	112,600	124,800	216,400	257,200	305,500	374,100	442,900	423,800	402,600	317,200
28	252,600	129,100	112,700	144,700	218,900	259,000	308,600	378,300	443,600	423,100	401,100	314,300
29	248,700	125,400	112,900	165,100	----------	260,500	311,700	381,700	443,300	422,500	400,400	311,900
30	244,600	119,900	113,200	172,100	----------	261,900	314,700	387,300	443,000	421,900	399,900	309,600
31	240,400	----------	113,200	173,200	----------	263,300	----------	389,300	----------	421,300	396,900	----------
Max	336,200	236,800	139,900	173,200	218,900	263,300	314,700	389,300	443,600	443,000	420,700	393,300
Min	240,400	119,900	112,600	113,200	156,900	220,600	264,500	317,100	392,100	421,300	396,900	309,600
(†)	871.56	825.54	822.30	848.17	864.49	878.65	893.45	913.00	925.98	920.83	914.90	892.02
(‡)	-96,300	-120,500	-6,700	+60,000	+45,700	+44,400	+51,400	+74,600	+53,700	-21,700	-24,400	-87,300

Cal yr 1966: Max 430,300 Min 116,500 Ac-ft ‡ -5,800
Wtr yr 1967: Max 443,600 Min 112,600 Ac-ft -27,100

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1500. Middle Fork Willamette River near Dexter, Oreg.

Location.--Lat 43°56'45", long 122°50'10", near center of sec.5, T.19 S., R.1 W., on right bank 0.6 mile upstream from Lost Creek, 2 miles northwest of Dexter, 2.6 miles downstream from Dexter Dam, and at mile 201.2.

Drainage area.--1,001 sq mi.

Records available.--October 1946 to September 1954 (published as "at Lowell"), June 1955 to September 1967. Monthly discharge only for October 1954 to June 1955, published in WSP 1738.

Gage.--Digital water-stage recorder. Datum of gage is 595.30 ft above mean sea level (levels by Corps of Engineers). Prior to Aug. 23, 1950, staff gage and Aug. 23, 1950, to Sept. 30, 1954, graphic water-stage recorder, at site 4 miles upstream at different datum. Oct. 1, 1954 to Aug. 4, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--21 years, 3,232 cfs (2,340,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,100 cfs Nov. 27 (gage height, 7.03 ft); minimum daily, 550 cfs Jan. 29.

1946-67: Maximum discharge, 62,600 cfs Jan. 18, 1953 (gage height, 12.46 ft, site and datum then in use), from rating curve extended above 33,000 cfs by logarithmic plotting; minimum daily, 100 cfs Nov. 25, 1960.

Maximum stage known, 13.9 ft Dec. 28, 1945 (former site and datum).

Remarks.--Records excellent. Flow regulated since 1953 by Lookout Point Reservoir (see sta. no. 1490) and since 1961, by Hills Creek Reservoir (see sta. no. 1451). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,980	3,490	6,400	1,940	8,340	1,240	1,270	1,380	1,820	1,440	1,400	2,340
2	1,970	3,310	4,330	1,950	8,210	1,310	1,270	1,200	1,350	1,440	1,400	2,370
3	2,030	1,230	3,710	1,980	8,280	1,520	1,250	1,220	1,500	1,490	1,400	2,420
4	2,700	1,200	3,740	1,920	5,880	1,250	1,280	1,300	1,520	1,350	1,420	2,320
5	2,890	1,330	3,790	2,540	5,470	1,220	1,310	1,320	1,290	1,370	1,380	2,610
6	2,930	2,970	3,840	2,300	5,570	1,330	1,300	1,360	1,420	1,370	1,400	2,960
7	2,940	3,350	4,960	2,840	5,500	1,290	1,370	1,310	1,330	1,380	1,390	2,960
8	3,190	3,840	3,740	2,460	3,550	1,280	1,380	1,300	1,240	1,400	1,390	2,960
9	3,320	3,920	3,920	2,770	1,160	1,430	1,470	1,270	1,240	1,400	1,380	2,720
10	3,500	3,950	4,410	2,310	1,280	1,800	1,130	1,250	1,200	1,390	1,380	2,820
11	3,490	4,030	4,670	2,470	1,300	1,200	1,160	1,240	1,240	1,390	1,370	3,080
12	3,480	3,760	4,890	3,210	1,280	1,270	1,230	1,250	1,280	1,430	1,410	3,040
13	3,480	4,010	5,480	3,390	1,230	2,060	1,290	1,320	1,290	1,390	1,430	2,890
14	3,500	4,050	6,080	3,360	1,230	2,010	1,310	1,430	1,280	1,390	1,430	2,980
15	3,320	4,120	7,900	3,450	1,210	1,220	1,250	1,370	1,250	1,380	1,430	2,960
16	3,230	4,760	8,090	3,520	1,200	1,240	1,280	1,330	1,240	1,380	1,390	2,900
17	3,180	7,160	7,630	3,720	1,220	1,160	1,270	1,290	1,250	1,380	1,430	2,910
18	2,930	9,050	7,820	3,610	1,220	1,260	1,330	1,170	1,250	1,330	1,400	2,970
19	2,920	9,140	7,840	4,590	1,180	1,350	1,360	1,290	1,240	1,320	1,320	2,930
20	2,880	8,970	6,150	7,880	1,200	1,230	1,250	1,280	1,280	1,330	1,390	2,930
21	2,970	8,870	4,730	8,070	1,200	1,310	1,260	1,310	1,280	1,330	1,370	2,860
22	3,340	9,560	4,140	8,070	1,200	1,260	1,300	1,300	1,720	1,330	1,400	2,870
23	3,270	10,600	3,120	7,560	1,200	1,240	1,280	1,900	2,300	1,340	1,400	3,030
24	3,290	10,600	3,030	6,350	1,190	1,230	1,260	2,700	2,190	1,340	1,400	2,890
25	3,910	10,600	3,200	5,570	1,260	1,250	1,260	3,470	2,360	1,350	1,420	2,940
26	4,010	11,800	3,050	3,770	1,260	1,290	1,280	3,870	1,780	1,380	1,410	2,930
27	4,000	12,000	2,560	3,760	1,150	1,320	1,310	3,210	1,370	1,400	1,440	2,910
28	4,100	10,200	2,010	1,870	1,100	1,330	1,410	2,190	1,690	1,400	1,430	2,900
29	3,810	8,400	1,960	550	------	1,340	1,240	1,830	1,620	1,400	1,460	2,910
30	3,400	7,500	1,940	3,660	------	1,340	1,350	1,700	1,580	1,400	1,820	2,980
31	3,730	------	1,830	6,780	------	1,290	------	1,750	------	1,400	2,170	------
TOTAL	99,690	187,770	140,960	118,220	75,070	41,870	38,710	51,110	44,400	42,820	44,660	85,290
MEAN	3,216	6,259	4,547	3,814	2,681	1,351	1,290	1,649	1,480	1,381	1,441	2,843
MAX	4,100	12,000	8,090	8,070	8,340	2,060	1,470	3,870	2,360	1,490	2,170	3,080
MIN	1,970	1,200	1,830	550	1,100	1,160	1,130	1,170	1,200	1,320	1,320	2,320
AC-FT	197,700	372,400	279,600	234,500	148,900	83,050	76,780	101,400	88,070	84,930	88,580	169,200

CAL YR 1966: TOTAL 978,657 MEAN 2,681 MAX 13,300 MIN 772 AC-FT 1,941,000
WAT YR 1967: TOTAL 970,570 MEAN 2,659 MAX 12,000 MIN 550 AC-FT 1,925,000

14-1503. Fall Creek near Lowell, Oreg.

Location.--Lat 43°58'15", long 122°38'15", in SW¼ sec.25, T.18 S., R.1 E., on right bank 0.1 mile downstream from North Fork, 8 miles northeast of Lowell, and at mile 14.4.

Drainage area.--118 sq mi.

Records available.--August 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 844.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 4, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 3,910 cfs Jan. 28 (gage height, 6.84 ft); minimum, 20 cfs Sept. 9.

1963-67: Maximum discharge, 11,200 cfs Dec. 22, 1964 (gage height, 11.39 ft); minimum, 16 cfs Oct. 3, 4, 1965.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	51	428	394	855	411	388	375	244	67	35	22
2	26	49	398	384	714	462	367	345	210	64	34	21
3	27	46	329	552	600	417	358	334	182	62	32	21
4	24	44	626	769	516	376	351	330	168	59	32	21
5	23	47	876	644	456	339	357	306	158	58	32	21
6	22	92	786	538	403	314	339	297	154	57	32	21
7	24	66	769	489	361	292	312	302	140	56	32	21
8	24	60	731	447	326	273	298	307	130	55	32	21
9	24	57	688	483	298	316	279	377	127	54	32	21
10	23	485	1,540	626	277	333	268	371	122	53	31	25
11	23	1,880	1,370	856	260	306	254	378	118	52	31	166
12	37	1,500	1,620	844	245	299	240	396	130	51	30	77
13	69	756	1,520	2,130	266	297	257	353	138	50	28	42
14	39	2,030	1,620	1,580	257	300	271	312	115	49	27	33
15	31	2,690	1,000	1,090	274	325	275	296	108	47	26	31
16	28	2,260	710	901	455	583	284	295	102	47	26	30
17	26	1,080	547	736	2,060	663	304	291	98	46	25	29
18	25	632	443	610	2,150	810	397	267	93	45	25	35
19	25	531	374	545	1,130	714	434	246	89	45	24	32
20	170	628	352	1,210	749	621	404	233	86	44	24	30
21	227	489	310	1,440	596	652	368	222	94	43	24	29
22	708	406	277	948	511	608	353	207	140	43	24	27
23	396	335	264	704	473	630	358	189	109	42	24	27
24	188	286	256	578	446	609	375	172	95	40	23	26
25	112	346	417	484	436	549	426	159	88	39	24	25
26	99	607	392	1,530	387	495	538	151	81	40	23	25
27	108	441	328	2,120	347	437	531	143	77	38	24	25
28	81	367	289	3,140	335	409	475	164	73	38	23	24
29	68	311	288	1,940	------	395	446	190	71	37	22	26
30	60	289	305	1,310	------	402	414	279	69	36	22	50
31	55	------	272	1,120	------	409	------	320	------	35	22	------
TOTAL	2,816	18,861	20,125	31,142	16,183	14,046	10,721	8,607	3,609	1,492	845	1,004
MEAN	90.8	629	649	1,005	578	453	357	278	120	48.1	27.3	33.5
MAX	708	2,690	1,620	3,140	2,150	810	538	396	244	67	35	166
MIN	22	44	256	384	245	273	240	143	69	35	22	21
CFSM	.77	5.33	5.50	8.51	4.90	3.84	3.03	2.35	1.02	.41	.23	.28
IN.	.89	5.94	6.34	9.82	5.10	4.43	3.38	2.71	1.14	.47	.27	.32
AC-FT	5,590	37,410	39,920	61,770	32,100	27,860	21,260	17,070	7,160	2,960	1,680	1,990

CAL YR 1966: TOTAL 132,183 MEAN 362 MAX 5,070 MIN 20 CFSM 3.07 IN 41.66 AC-FT 262,200
WAT YR 1967: TOTAL 129,451 MEAN 355 MAX 3,140 MIN 21 CFSM 3.01 IN 40.80 AC-FT 256,800

Peak discharge (base, 3,500 cfs).--Jan. 28 (0930 hrs) 3,910 cfs (6.84 ft).

14-1508. Winberry Creek near Lowell, Oreg.

Location.--Lat 43°54'50", long 122°41'15", in NE¼SE¼ sec.16, T.19 S., R.1 E., on right bank 0.9 mile upstream from Nelson Creek, 4.6 miles east of Lowell, and at mile 4.4.

Drainage area.--43.9 sq mi.

Records available.--August 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 863.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (Corps of Engineers bench mark). Prior to Mar. 5, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 948 cfs Nov. 16 (gage height, 3.93 ft); minimum, 1.5 cfs Sept. 4, 5, 8-10.

1963-67: Maximum discharge 4,500 cfs Dec. 22, 1964 (gage height, 8.07 ft); minimum, 1.5 cfs Sept. 4, 5, 8-10, 1967.

Remarks.--Records excellent except those for period of no gage-height record, which are good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	17	113	100	265	135	124	103	102	17	5.9	2.2
2	7.8	16	100	110	212	145	122	95	91	16	6.0	2.1
3	9.8	15	95	140	173	138	127	97	77	15	5.2	2.1
4	6.5	14	170	200	145	126	129	103	68	14	4.8	2.3
5	5.3	16	240	170	125	114	124	96	61	14	4.7	2.3
6	4.7	27	220	150	108	104	112	99	58	14	5.1	2.2
7	4.9	20	200	130	95	94	103	108	52	14	5.7	2.5
8	5.0	21	190	120	86	86	97	116	47	13	5.2	2.2
9	5.3	20	190	140	77	89	87	156	44	13	5.1	2.0
10	4.8	204	400	160	72	98	80	159	41	12	5.2	2.8
11	4.4	630	380	320	68	94	74	152	38	12	4.6	40
12	9.3	358	440	301	63	90	67	146	40	12	4.5	20
13	20	225	420	715	69	88	69	130	40	11	4.7	10
14	13	512	420	562	69	87	70	119	34	11	4.7	7.2
15	9.9	798	260	396	78	93	75	118	30	11	4.4	5.5
16	8.5	736	180	324	132	145	78	127	28	10	3.7	4.5
17	7.8	361	140	258	772	163	85	132	27	10	3.1	5.0
18	7.2	218	120	209	718	224	111	123	25	9.7	2.9	7.8
19	6.7	180	100	182	394	219	126	112	23	9.8	2.6	5.8
20	21	180	95	330	260	192	122	107	22	9.6	2.5	4.8
21	39	129	85	502	200	197	117	102	26	9.0	2.4	4.3
22	176	115	75	347	167	190	127	95	39	8.5	2.5	3.8
23	116	96	70	237	150	190	129	85	30	8.7	2.5	3.5
24	63	82	80	184	138	160	132	74	25	8.2	2.4	3.1
25	41	111	110	145	137	139	144	65	23	7.7	2.5	2.8
26	36	251	100	267	125	130	179	58	21	7.9	2.9	2.7
27	37	185	85	406	107	114	176	53	20	7.5	2.5	2.5
28	28	150	75	683	106	108	156	61	19	6.7	2.4	2.0
29	24	119	80	507	------	113	134	67	18	6.3	2.4	2.5
30	21	103	80	359	------	122	117	106	17	5.9	2.1	13
31	19	------	75	330	------	127	------	124	------	5.8	2.2	------
TOTAL	766.4	5,919	5,388	8,984	5,111	4,114	3,393	3,288	1,186	330.3	117.4	173.5
MEAN	24.7	197	174	290	183	133	113	106	39.5	10.7	3.79	5.78
MAX	176	798	440	715	772	224	179	159	102	17	6.0	40
MIN	4.4	14	70	100	63	86	67	53	17	5.8	2.1	2.0
CFSM	.56	4.49	3.96	6.60	4.16	3.02	2.58	2.42	.90	.24	.09	.13
IN.	.65	5.01	4.56	7.61	4.33	3.49	2.87	2.79	1.00	.28	.10	.15
AC-FT	1,520	11,740	10,690	17,820	10,140	8,160	6,730	6,520	2,350	655	233	344

CAL YR 1966: TOTAL 37,367.8 MEAN 102 MAX 1,320 MIN 2.5 CFSM 2.33 IN 31.66 AC-FT 74,120
WAT YR 1967: TOTAL 38,770.6 MEAN 106 MAX 798 MIN 2.0 CFSM 2.42 IN 32.84 AC-FT 76,900

Peak discharge (base, 1,000 cfs).--No peak above base.

Note.--No gage-height record Dec. 2 to Jan. 11.

14-1509. Fall Creek Reservoir near Lowell, Oreg.

Location.--Lat 43°56'40", long 122°45'20", in SW¼ sec.1, T.19 S., R.1 W., in regulating tower near the center of Fall Creek Dam on Fall Creek, 2.2 miles northeast of Lowell, and at mile 7.2.

Drainage area.--184 sq mi.

Records available.--January 1966 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during the year, 117,800 acre-ft May 30 (elevation, 830.20 ft); minimum, 9,750 acre-ft Jan. 25 (elevation, 727.46 ft).

1966-67: Maximum contents, 117,800 acfe-ft May 30, 1967 (elevation, 830.20 ft); minimum since first filling 9,750 acre-ft Jan. 25, 1967 (elevation, 727.46 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete gate and spillway section, completed in 1965 by Corps of Engineers; storage began January 1966. Total capacity is 125,000 acre-ft and usable capacity is 115,000 acre-ft between elevation 728 (proposed lower limit of operation) and 834 ft. Reservoir used for flood control, conservation and recreation. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

727	9,540	765	33,700	805	77,800
735	13,700	775	42,710	815	92,550
745	19,670	785	53,070	825	108,900
755	26,060	795	64,200	831	119,300

Contents, in acre-feet, at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19.870	19.560	10.240	10.140	23.380	56.120	85.200	109.600	117.400	115.700	60.750	24.340
2	19.680	19.380	10.260	10.000	21.220	57.230	86.070	110.300	117.400	114.700	59.590	23.990
3	19.520	19.150	10.090	10.290	19.910	58.220	86.900	111.000	117.400	113.500	58.380	23.650
4	19.340	18.920	11.000	10.320	19.320	59.130	87.750	111.700	117.400	112.000	57.200	23.310
5	19.100	18.710	11.480	10.060	19.430	59.930	88.520	112.400	117.300	110.400	56.030	23.050
6	18.920	18.630	10.400	10.200	20.030	60.700	89.260	113.100	117.300	108.900	54.890	22.900
7	18.740	18.050	9.980	10.150	20.880	61.380	89.840	113.700	117.300	107.300	53.720	22.760
8	18.560	17.180	10.170	9.940	21.640	62.020	90.460	114.400	117.400	105.700	52.480	22.600
9	18.350	16.360	10.380	9.830	22.310	62.830	91.030	115.400	117.400	104.000	51.180	22.460
10	18.180	16.730	11.150	10.000	22.900	63.740	91.560	116.100	117.500	102.300	49.780	22.370
11	17.960	20.510	10.580	10.150	23.480	64.590	92.040	116.800	117.500	100.700	48.410	22.600
12	17.800	22.580	11.850	10.170	24.020	65.370	92.500	116.800	117.600	99.030	47.030	22.620
13	17.760	21.420	14.720	11.280	24.660	66.150	93.120	116.700	117.600	97.190	45.630	22.530
14	17.610	22.910	17.870	10.710	25.270	66.930	93.710	116.600	117.500	95.340	44.260	22.430
15	17.450	26.410	15.380	9.970	25.950	67.740	94.290	116.700	117.500	93.340	42.910	22.310
16	17.260	28.150	11.260	10.010	27.140	68.910	95.030	116.700	117.300	91.390	41.510	22.190
17	17.090	25.650	10.090	9.940	33.060	70.530	95.740	116.600	117.200	89.340	40.160	22.080
18	16.910	21.590	10.020	10.000	39.320	72.970	96.760	116.700	117.000	87.360	38.800	21.970
19	16.730	17.450	9.980	9.770	42.900	75.000	97.840	117.600	116.900	85.260	37.450	21.870
20	16.850	13.940	10.100	10.390	45.290	76.160	98.870	117.600	116.900	82.950	36.120	21.740
21	17.220	11.260	10.090	10.900	47.120	77.130	99.780	117.600	117.000	80.800	34.940	21.620
22	18.710	9.910	9.990	10.650	48.620	77.730	100.700	117.500	117.200	78.540	33.740	21.490
23	19.440	9.930	9.890	10.310	50.150	78.180	101.700	117.400	117.400	76.400	32.540	21.350
24	19.700	9.960	9.890	9.930	51.320	78.750	102.600	116.900	117.400	74.160	31.350	21.230
25	19.790	10.130	10.250	9.800	52.460	79.330	103.700	117.000	117.400	71.920	30.180	21.050
26	19.850	9.980	10.390	10.850	53.410	79.940	105.200	117.100	117.500	69.630	28.970	20.860
27	19.890	10.000	10.160	14.280	54.340	80.670	106.600	117.200	117.500	67.320	27.770	20.670
28	19.870	10.000	10.010	22.300	55.120	81.410	107.600	117.400	117.300	65.750	26.540	20.470
29	19.840	9.940	10.000	27.300	----------	82.310	108.200	117.600	116.900	64.460	25.400	20.330
30	19.780	9.980	10.130	28.580	----------	83.290	108.900	117.800	116.400	63.160	25.020	20.230
31	19.670	----------	10.070	26.420	----------	84.270	----------	117.700	----------	61.960	24.680	----------
Max	19,890	28,150	17,870	28,580	55,120	84,270	108,900	117,800	117,600	115,700	60,750	24,340
Min	16,730	9,910	9,890	9,770	19,320	56,120	85,200	109,600	116,400	61,960	24,680	20,230
(†)	745.00	727.95	728.15	755.51	786.95	809.58	825.02	830.13	829.40	793.20	753.00	745.94
(‡)	-370	-9,690	+90	+16,350	+28,700	+29,150	+24,630	+8,800	-1,300	-54,440	-37,280	-4,450

Cal yr 1966: Max 110,200 Min 9,910 Ac-ft ‡ -
Wtr yr 1967: Max 117,800 Min 9,770 Ac-ft ‡ +190

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1510. Fall Creek below Winberry Creek, near Fall Creek, Oreg.

Location.--Lat 43°56'40", long 122°46'25", in NW¼SE¼ sec.2, T.19 S., R.1 W., on left bank 10 ft upstream from highway bridge, 1.1 miles downstream from Fall Creek Dam, 2.3 miles southeast of town of Fall Creek, and at mile 6.1.

Drainage area.--186 sq mi.

Records available.--October to December 1911 (published as Big Fall Creek near Fall Creek; gage heights and discharge measurements only), September 1935 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 637.81 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 1 to Dec. 31, 1911, staff gage at site a quarter of a mile downstream at different datum. Sept. 9, 1935, to Aug. 3, 1950, staff gage at present site and datum. Aug. 4, 1950, to Aug. 4, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 580 cfs (419,900 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 4,050 cfs Dec. 15 (gage height, 7.55 ft); minimum, 62 cfs Feb. 6-13.

1935-67: Maximum discharge, 24,700 cfs Dec. 11, 1956 (gage height, 18.80 ft), from rating curve extended above 9,700 cfs by logarithmic plotting; minimum, 1.5 cfs Oct. 7, 8, 1965.

Remarks.--Records excellent. Flow regulated since 1966, by Fall Creek Reservoir (see sta. no. 1509). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	127	133	480	519	2,950	76	123	176	367	478	687	194
2	127	161	567	605	2,280	76	123	121	290	590	693	193
3	126	197	569	713	1,570	76	123	83	265	684	691	191
4	126	197	603	1,260	1,050	79	123	83	265	650	688	191
5	125	197	1,330	1,200	595	79	124	82	265	962	684	145
6	125	197	1,790	843	249	79	124	81	206	898	680	95
7	125	371	1,480	843	62	79	124	81	176	897	670	95
8	125	558	1,110	838	62	79	123	81	157	938	719	95
9	125	551	955	838	62	82	123	106	133	960	737	94
10	125	553	1,680	863	62	86	123	211	133	927	732	95
11	125	571	2,110	1,220	62	83	100	262	133	904	727	95
12	125	958	1,490	1,240	62	83	78	589	133	947	722	95
13	124	1,810	526	2,480	64	84	80	605	167	998	717	95
14	123	2,040	545	2,670	64	82	80	513	185	1,030	712	95
15	123	2,110	2,790	2,020	66	83	80	417	183	1,090	706	95
16	123	2,710	3,010	1,380	69	83	82	476	183	1,100	701	95
17	123	3,000	1,370	1,200	87	84	82	499	183	1,090	695	95
18	123	2,980	655	908	79	93	84	342	183	1,090	689	95
19	123	2,990	552	937	76	88	83	311	160	1,160	684	95
20	125	2,590	449	1,430	75	322	81	355	102	1,210	681	95
21	127	2,000	447	2,080	75	514	81	375	81	1,200	673	94
22	128	1,240	445	1,730	74	629	83	378	81	1,190	666	94
23	130	465	414	1,280	74	708	82	379	80	1,190	660	94
24	132	384	350	1,070	74	586	82	283	79	1,180	654	94
25	132	414	362	782	76	500	85	213	79	1,180	648	110
26	132	1,040	477	1,370	74	389	89	176	80	1,200	641	128
27	133	683	555	1,030	74	249	92	176	79	1,190	634	127
28	133	579	485	81	75	205	208	176	173	852	629	125
29	133	499	403	74	------	139	280	176	296	698	619	127
30	133	407	403	1,340	------	80	229	351	347	695	197	128
31	133	------	404	2,800	------	105	------	619	------	692	194	------
TOTAL	3,939	32,585	28,806	37,644	10,242	5,980	3,374	8,776	5,244	30,070	20,230	3,459
MEAN	127	1,086	929	1,214	366	193	112	283	175	970	653	115
MAX	133	3,000	3,010	2,800	2,950	708	280	619	367	1,210	737	194
MIN	123	133	350	74	62	76	78	81	79	478	194	94
AC-FT	7,810	64,630	57,140	74,670	20,310	11,860	6,690	17,410	10,400	59,640	40,130	6,860

Adjusted for change in contents of Fall Creek Reservoir

Mean	121	923	931	1,480	882	667	526	426	153	84.6	46.4	40.5
Cfsm	0.651	4.96	5.01	7.96	4.74	3.59	2.83	2.29	0.823	0.455	0.249	0.218
In.	0.75	5.54	5.77	9.18	4.94	4.13	3.16	2.64	0.92	0.52	0.29	0.24
Ac-ft	7,440	54,940	57,230	91,020	49,010	41,010	31,320	26,210	9,100	5,200	2,850	2,410

Observed

Cal yr 1966:	Total	180,420	Mean	494	Max	4,010	Min	40	Ac-ft	357,900
Wat yr 1967:	Total	190,349	Mean	522	Max	3,010	Min	62	Ac-ft	377,600

Adjusted

Cal yr 1966:	Mean	-	Cfsm	-	In.	-	Ac-ft	-
Wat yr 1967:	Mean	522	Cfsm	2.81	In.	38.08	Ac-ft	377,740

14-1520. Middle Fork Willamette River at Jasper, Oreg.

Location.--Lat 43°59'55", long 122°54'20", in SW¼SW¼ sec.14, T.18 S., R.2 W., on right bank 25 ft downstream from highway bridge at Jasper, 0.1 mile downstream from Hills Creek, and at mile 195.0.

Drainage area.--1,340 sq mi.

Records available.--September 1905 to February 1912, July 1913 to March 1917, October 1952 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 513.45 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. September 1905 to February 1912 and July 1913 to March 1917, staff gage at approximately same site at datum about 1.5 ft higher. Oct. 22, 1952, to Sept. 30, 1953, wire-weight gage at site 25 ft upstream at same datum. Oct. 1, 1953 to May 26, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--24 years (1905-11, 1913-16, 1952-67), 4,048 cfs (2,931,000 acre-ft per year).

Extremes.--Maximum discharge during year, 14,300 cfs Nov. 26 (gage height, 7.86 ft); minimum, 1,460 cfs June 10.

1905-12, 1913-17, 1952-67: Maximum discharge, 94,000 cfs Nov. 23, 1909 (gage height, 17.4 ft, datum then in use, from graph based on gage readings), from rating curve extended above 42,000 cfs by logarithmic plotting; minimum, 366 cfs Dec. 5, 1954.

Remarks.--Records excellent except those for period of shifting control, which are good. Flow regulated since 1953 by Lookout Point Reservoir (see sta. no. 1490), since 1961 by Hills Creek Reservoir (see sta. no. 1451) and since 1966 by Fall Creek Reservoir (see sta. no. 1509). Records of water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,440	3,830	7,230	3,040	12,400	1,840	1,920	2,180	2,660	2,010	2,010	2,590
2	2,410	3,740	5,470	3,160	11,100	2,000	1,880	1,870	1,980	2,130	2,010	2,650
3	2,480	1,670	4,840	3,370	9,800	2,250	1,830	1,750	2,060	2,280	2,010	2,710
4	3,080	1,520	5,770	4,070	6,950	1,900	1,830	1,820	2,120	2,270	2,030	2,620
5	3,250	1,640	6,700	4,700	6,400	1,780	1,880	1,800	1,770	2,420	1,990	2,810
6	3,320	3,360	6,880	4,090	6,150	1,860	1,850	1,830	1,890	2,350	2,010	3,130
7	3,310	3,850	8,050	4,480	5,850	1,810	1,890	1,750	1,730	2,360	1,980	3,130
8	3,520	4,470	6,470	4,140	4,280	1,760	1,870	1,710	1,600	2,410	2,010	3,140
9	3,630	4,570	5,890	4,300	1,920	1,960	2,070	1,790	1,560	2,430	2,030	2,940
10	3,780	4,840	7,370	3,970	1,770	2,680	1,580	1,910	1,520	2,390	2,030	3,030
11	3,790	5,520	7,930	4,530	1,780	1,840	1,570	1,990	1,580	2,350	2,010	3,350
12	3,780	5,430	7,790	5,160	1,720	1,860	1,580	2,270	1,630	2,410	2,050	3,300
13	3,790	6,250	7,330	7,050	1,730	2,600	1,700	2,390	1,670	2,430	2,070	3,120
14	3,800	8,050	7,870	7,230	1,710	2,730	1,790	2,380	1,690	2,440	2,060	3,210
15	3,650	9,700	11,600	6,460	1,730	1,750	1,700	2,190	1,670	2,500	2,060	3,180
16	3,580	9,730	12,000	5,780	1,880	1,890	1,790	2,150	1,660	2,500	2,010	3,130
17	3,510	11,200	9,500	5,670	3,270	1,900	1,850	2,150	1,670	2,480	2,030	3,160
18	3,310	13,000	8,720	5,230	3,390	2,280	1,960	1,820	1,670	2,420	2,040	3,200
19	3,290	12,900	8,540	6,270	2,640	2,340	2,020	1,860	1,650	2,450	1,920	3,170
20	3,310	12,400	7,090	10,600	2,340	2,280	1,830	1,890	1,640	2,510	1,990	3,190
21	3,460	11,300	5,600	12,100	2,140	2,560	1,790	1,940	1,620	2,490	1,950	3,120
22	3,780	11,200	5,130	11,000	2,000	2,550	1,880	1,920	2,190	2,460	1,990	3,120
23	3,740	11,600	4,220	9,290	1,900	2,600	1,950	2,540	2,820	2,460	1,970	3,260
24	3,670	11,600	3,980	7,790	1,850	2,510	1,890	3,370	2,600	2,450	1,970	3,150
25	4,200	11,600	4,190	6,460	1,930	2,380	1,970	4,030	2,770	2,460	1,970	3,220
26	4,350	13,800	4,160	6,320	1,870	2,300	2,160	4,420	2,090	2,500	1,970	3,230
27	4,340	13,800	3,790	6,840	1,810	2,110	2,400	3,830	1,510	2,520	1,990	3,210
28	4,420	11,600	3,170	5,110	1,630	2,050	2,510	2,910	2,000	2,240	1,980	3,210
29	4,150	9,060	2,990	2,750	------	2,040	2,310	2,470	2,070	2,020	2,000	3,230
30	3,740	7,880	2,950	5,620	------	2,020	2,270	2,430	2,080	2,010	2,070	3,330
31	4,040	------	2,820	11,000	------	1,950	------	2,880	------	2,010	2,390	------
TOTAL	110,920	241,110	196,040	187,580	103,940	66,380	57,520	72,240	57,170	73,160	62,600	92,840
MEAN	3,578	8,037	6,324	6,051	3,712	2,141	1,917	2,330	1,906	2,360	2,019	3,095
MAX	4,420	13,800	12,000	12,100	12,400	2,730	2,510	4,420	2,820	2,520	2,390	3,350
MIN	2,410	1,520	2,820	2,750	1,630	1,750	1,570	1,710	1,510	2,010	1,920	2,590
AC-FT	220,000	478,200	388,800	372,100	206,200	131,700	114,100	143,300	113,400	145,100	124,200	184,100

CAL YR 1966: TOTAL 1,335,100 MEAN 3,658 MAX 17,600 MIN 1,300 AC-FT 2,648,000
WAT YR 1967: TOTAL 1,321,500 MEAN 3,621 MAX 13,800 MIN 1,510 AC-FT 2,621,000

Note.--Shifting-control method used June 22 to Sept. 30.

14-1525. Coast Fork Willamette River at London, Oreg.

Location.--Lat 43°38'30", long 123°05'05", in SW¼ sec.20, T.22 S., R.3 W., on left bank 0.6 mile north of London, 11 miles south of Cottage Grove, and at mile 35.9.

Drainage area.--72.1 sq mi.

Records available.--September 1935 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 852.58 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Sept. 18 to Oct. 17, 1935, staff gage at same site and datum. Oct. 18, 1935, to Aug. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 206 cfs (149,100 acre-ft per year).

Extremes.--1965-66: Maximum during year, 5,980 cfs Jan. 3 (gage height, 9.58 ft); minimum daily, 8.0 cfs Oct. 1-3.

1966-67: Maximum discharge during year, 1,940 cfs Jan. 28 (gage height, 5.41 ft); minimum daily, 10 cfs Sept. 1-6.

1935-67: Maximum discharge, 12,500 cfs Dec. 22, 1964 (gage height, 13.37 ft), from rating curve extended above 3,200 cfs on basis of slope-area measurement of peak flow; minimum daily, 8.0 cfs Oct. 1-3, 1965.

Remarks.--Records fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1966, superseding figures published in the 1966 Annual Report, are given herein.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	8.0	17	55	220	216	174	247	65	34	30	16	14
2	8.0	17	50	850	191	165	222	66	42	102	16	13
3	8.0	52	50	2,730	175	156	192	67	58	87	16	12
4	15	142	50	2,750	169	155	179	71	44	55	15	11
5	41	50	55	1,450	181	165	178	76	38	42	15	11
6	28	32	50	3,020	190	223	179	81	38	36	15	10
7	22	28	60	1,540	195	357	172	70	32	34	15	9.4
8	18	30	113	1,250	182	530	161	69	28	32	15	9.0
9	16	39	80	836	231	1,180	157	65	27	30	15	8.6
10	15	56	60	509	360	1,100	213	58	31	30	14	10
11	14	93	55	414	306	542	222	54	32	28	13	12
12	14	175	50	348	327	422	216	53	29	26	13	14
13	14	125	46	321	297	372	181	52	27	24	13	11
14	30	75	42	372	276	345	160	52	25	24	13	11
15	60	55	38	770	241	339	140	58	24	24	12	11
16	41	46	36	526	214	342	130	55	22	22	12	10
17	26	42	30	414	199	315	120	49	20	22	12	13
18	25	93	28	342	190	336	110	48	20	22	12	62
19	49	60	26	291	184	453	100	47	20	20	12	25
20	33	85	26	252	186	478	93	48	20	20	12	18
21	24	105	28	233	178	566	85	51	18	18	12	16
22	22	94	32	214	186	453	80	54	18	17	11	14
23	21	123	28	197	194	390	77	54	17	16	12	13
24	20	103	155	234	179	363	76	42	20	16	13	14
25	19	84	128	227	160	354	77	35	18	16	15	14
26	19	119	129	210	140	348	76	35	16	16	14	15
27	19	152	346	193	130	321	72	36	15	16	15	14
28	24	111	2,170	179	150	300	69	33	15	16	16	13
29	22	89	746	173		270	68	33	18	16	15	13
30	20	60	409	225	- - - - -	257	67	33	16	16	15	13
31	19	- - - - -	293	244	- - - - -	244	- - - - -	33	- - - - -	16	15	- - - - -
Total	714.0	2,352	5,464	21,534	5,827	12,015	4,119	1,643	782	889	429	434.0
Mean	23.0	78.4	176	695	208	388	137	53.0	26.1	28.7	13.8	14.5
Max	60	175	2,170	3,020	360	1,180	247	81	58	102	16	62
Min	8.0	17	26	173	130	155	67	33	15	16	11	8.6
Cfsm	.319	1.09	2.44	9.64	2.88	5.38	1.90	.735	.362	.398	.191	.201
In.	.37	1.21	2.82	11.11	3.01	6.20	2.12	.85	.40	.46	.22	.22
Ac-ft	1,420	4,670	10,840	42,710	11,560	23,830	8,170	3,260	1,550	1,760	851	861

Calendar year 1965: Max 2,170 Min 7.5 Mean 144 Ac-ft 104,600 CFSM 2.00 INCHES 27.19
Water year 1965-66: Max 3,020 Min 8.0 Mean 154 Ac-ft 111,500 CFSM 2.14 INCHES 28.99

Peak discharge (base, 2,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	0700	7.36	3,400	1- 6	0430	8.12	4,220
1- 3	0030	9.58	5,980				

Note.--No gage-height record July 5 to Aug. 25.

14-1525. Coast Fork Willamette River at London, Oreg.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	24	218	145	482	212	221	209	132	30	15	10
2	12	23	260	138	386	254	212	189	117	28	15	10
3	14	22	233	152	320	274	200	175	100	28	15	10
4	13	21	906	206	278	240	189	167	90	28	15	10
5	12	22	928	233	242	220	192	155	80	26	14	10
6	13	43	575	212	215	180	189	147	75	26	14	10
7	14	37	655	227	194	150	175	147	65	26	14	11
8	14	29	633	203	178	134	167	147	63	26	14	11
9	14	26	450	215	162	147	165	189	60	24	14	11
10	14	89	622	245	152	221	160	209	57	24	13	15
11	14	274	565	299	145	206	138	215	56	24	13	46
12	18	306	590	260	138	192	134	194	55	22	13	29
13	27	206	550	257	157	186	152	175	53	22	13	21
14	19	1,010	628	239	160	178	175	155	52	22	13	18
15	16	1,430	442	221	197	183	183	147	49	22	12	17
16	15	1,120	342	206	236	278	206	140	46	20	12	15
17	14	464	270	183	437	288	239	130	45	20	12	17
18	14	267	227	170	622	350	267	111	44	20	12	29
19	14	295	194	183	442	323	254	101	43	20	12	20
20	52	306	200	993	334	280	233	94	44	20	11	18
21	84	242	186	1,030	278	264	209	89	49	19	11	17
22	96	197	170	617	239	248	203	82	52	19	11	16
23	85	160	154	419	209	254	197	77	50	19	11	16
24	51	132	145	327	197	245	189	73	45	19	11	16
25	37	119	180	264	218	221	200	70	42	18	11	15
26	40	134	197	520	192	212	220	68	40	18	11	15
27	49	119	175	716	180	189	242	65	36	18	11	15
28	34	111	157	1,530	175	186	230	82	34	17	11	14
29	29	101	150	908	------	206	224	92	32	16	11	18
30	26	98	145	650	------	233	230	115	30	16	11	32
31	25	------	134	617	------	239	------	178	------	16	11	------
TOTAL	891	7,427	11,321	12,585	7,165	6,993	5,595	4,187	1,736	673	387	512
MEAN	28.7	248	365	406	256	226	200	135	57.9	21.7	12.5	17.1
MAX	96	1,430	928	1,530	622	350	267	215	132	30	15	46
MIN	12	21	134	138	138	134	134	65	30	16	11	10
CFSM	.40	3.43	5.07	5.63	3.55	3.13	2.77	1.87	.80	.30	.17	.24
IN.	.46	3.83	5.84	6.49	3.70	3.61	3.09	2.16	.90	.35	.20	.26
AC-FT	1,770	14,730	22,450	24,960	14,210	13,870	11,890	8,300	3,440	1,330	768	1,020

CAL YR 1966: TOTAL 67,311.0 MEAN 184 MAX 3,020 MIN 8.6 CFSM 2.56 IN 34.72 AC-FT 133,500
WAT YR 1967: TOTAL 59,872 MEAN 164 MAX 1,530 MIN 10 CFSM 2.28 IN 30.88 AC-FT 118,800

Peak discharge (base, 2,100 cfs).--No peak above base.

Note.--No gage-height record June 25 to Sept. 9

14-1530. Cottage Grove Reservoir near Cottage Grove, Oreg.

Location.--Lat 43°43'00", long 123°02'55", in NE¼ sec.28, T.21 S., R.3 W., in east abutment of dam on Coast Fork Willamette River, 5.8 miles south of Cottage Grove, and at mile 29.7.

Drainage area.--104 sq mi.

Records available.--October 1942 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 32,050 acre-ft June 1 (elevation, 790.23 ft); no contents Oct. 1-19.

1942-67: Maximum contents, 36,760 acre-ft Dec. 24, 1964 (elevation, 794.23 ft); minimum since first filling, no contents Sept. 26 to Oct. 19, 1966.

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway completed by Corps of Engineers in 1942; storage began Oct. 31, 1942. Capacity, 32,940 acre-ft between elevations 719.0 (outlet conduit) and 791.0 ft (crest of spillway). Dead storage negligible. Reservoir used for flood control and improvement of navigation. Capacity table furnished by Corps of Engineers. Figures given herein represent total contents.

Revisions.--Revised figures of contents, in acre-feet, for water year 1966, superseding those published in 1966 Annual Report, are given herewith:

1966		1966-Con.	
Sept. 20	959	Sept. 24	285
21	742	25	110
22	660	26	15
23	475		

Capacity table (elevation, in feet, and contents, in acre-feet)

721	0	755	4,590	775	16,970
730	30	760	6,960	780	21,380
745	1,600	765	9,820	791	32,940
750	2,880	770	13,120		

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2	1,890	2,850	6,390	10,960	19,430	28,220	32,000	30,940	25,970	10,900
2	0	5	2,390	2,880	4,940	11,380	19,580	28,420	31,980	30,860	25,520	10,600
3	0	12	2,700	2,900	4,690	11,800	19,810	28,600	31,960	30,750	25,070	10,320
4	0	14	4,700	3,000	4,670	12,180	20,140	28,710	31,980	30,660	24,630	10,020
5	0	14	5,860	2,800	4,580	12,510	20,470	28,800	32,040	30,545	24,130	9,810
6	0	23	4,710	2,690	4,750	12,790	20,760	28,860	32,040	30,430	23,700	9,670
7	0	25	4,410	2,800	5,030	13,070	21,020	28,930	32,040	30,340	23,260	9,540
8	0	23	4,330	2,840	5,390	13,300	21,250	29,070	32,020	30,230	22,830	9,400
9	0	25	3,240	2,890	5,750	13,610	21,450	29,510	32,020	30,110	22,410	9,270
10	0	28	2,940	2,980	6,040	14,120	21,640	28,820	32,020	29,990	21,900	9,190
11	0	27	2,920	3,010	6,280	14,430	21,810	30,050	32,020	29,880	21,340	9,140
12	0	17	3,020	2,880	6,500	14,570	21,980	30,230	31,990	29,780	20,800	9,060
13	0	42	3,130	2,840	6,790	14,710	22,220	30,340	31,970	29,680	20,250	8,940
14	0	524	3,330	2,820	7,070	14,820	22,500	30,390	31,950	29,550	19,700	8,830
15	0	1,140	3,110	2,820	7,460	14,920	22,750	30,530	31,900	29,440	19,170	8,700
16	0	1,170	2,960	2,820	7,910	15,260	23,120	30,740	31,860	29,330	18,650	8,550
17	0	872	2,800	2,820	8,440	15,490	23,550	30,900	31,810	29,220	18,110	8,450
18	0	861	2,790	2,810	9,110	15,830	23,990	31,040	31,750	29,110	17,580	8,360
19	0	806	2,820	2,910	9,310	16,100	24,530	31,150	31,670	28,970	17,050	8,250
20	7	684	2,880	4,320	9,280	16,400	24,860	31,240	31,620	28,860	16,520	8,140
21	16	660	2,910	5,240	9,250	16,800	25,170	31,330	31,590	28,750	15,990	8,020
22	23	675	2,860	5,020	9,430	17,050	25,460	31,400	31,560	28,640	15,490	7,900
23	28	765	2,850	4,940	9,620	17,170	25,720	31,450	31,530	28,520	14,990	7,770
24	27	902	2,860	4,740	9,780	17,270	26,000	31,480	31,490	28,400	14,480	7,650
25	25	1,010	2,940	3,470	9,990	17,320	26,350	31,510	31,420	28,290	13,980	7,530
26	26	1,150	2,980	3,370	10,130	17,470	26,750	31,530	31,360	28,180	13,480	7,400
27	27	1,260	2,930	4,430	10,330	17,740	27,110	31,560	31,280	28,070	13,000	7,280
28	25	1,360	2,880	8,130	10,600	18,090	27,320	31,620	31,200	27,720	12,510	7,150
29	23	1,430	2,830	10,330	----------	18,510	27,640	31,720	31,110	27,290	12,010	7,060
30	21	1,500	2,810	10,760	----------	18,930	27,970	31,910	31,020	26,860	11,540	7,000
31	8	----------	2,810	9,080	----------	19,260	----------	32,040	----------	26,420	11,200	----------
Max	28	1,500	5,860	10,760	10,600	19,260	27,970	32,040	32,040	30,940	25,970	10,900
Min	0	2	1,890	2,690	4,580	10,960	19,430	28,220	31,020	26,420	11,200	7,000
(†)	723.3	744.5	749.75	763.78	766.24	777.68	786.55	790.22	789.32	785.08	767.17	760.07
(‡)	+8	+1,492	+1,310	+6,270	+1,520	+8,660	+8,710	+4,070	-1,020	-4,600	-15,220	-4,200

Cal yr 1966: Max 24,190 Min 0 Ac-ft ‡ -50
Wtr yr 1967: Max 32,040 Min 0 Ac-ft ‡ +7,000

† Elevation, in feet, at end of month.
‡ Change, in contents, in acre-feet.

14-1535. Coast Fork Willamette River below Cottage Grove Dam, Oreg.

Location.--Lat 43°43'15", long 123°02'55", in NE¼ sec.28, T.21 S., R.3 W., on right bank at bridge 0.3 mile downstream from Cottage Grove Dam, 5.5 miles south of Cottage Grove, and at mile 29.4.

Drainage area.--104 sq mi.

Records available.--January 1939 to September 1967. Prior to October 1944, published as "near Cottage Grove."

Gage.--Digital water-stage recorder. Datum of gage is 711.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Jan. 1 to Oct. 12, 1939, staff gage and Oct. 13, 1939, to Sept. 30, 1944, graphic water-stage recorder at several sites and datums 0.8 mile downstream. Oct. 1, 1944, to Mar. 8, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--28 years, 282 cfs (204,200 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 2,090 cfs Jan. 31 (gage height, 7.66 ft); minimum, 15 cfs Oct. 6.

1939-67: Maximum discharge, 5,910 cfs Dec. 24, 1964 (gage height, 11.83 ft); practically no flow July 5-7, 1945, Aug. 24, 1947.

Remarks.--Records excellent. Flow regulated since 1942 by Cottage Grove Reservoir (see sta. no. 1530). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	26	108	143	1,960	74	187	154	171	71	237	150
2	16	25	112	155	1,250	74	188	155	148	70	235	150
3	18	20	161	161	572	75	119	155	107	70	235	150
4	17	19	262	206	406	75	74	155	76	70	234	148
5	16	21	634	426	382	75	74	155	67	70	232	109
6	15	32	1,390	370	208	75	74	157	84	70	232	72
7	16	49	1,200	280	129	77	75	158	91	70	231	72
8	17	33	938	280	71	77	75	109	82	69	229	72
9	17	27	1,230	280	48	77	75	72	74	69	229	72
10	16	81	965	297	59	77	75	123	70	69	268	72
11	16	330	736	389	74	145	75	153	68	69	287	72
12	19	391	692	427	74	206	76	155	70	69	286	72
13	29	209	692	378	74	206	77	155	72	69	284	72
14	22	997	704	325	74	204	77	155	72	69	283	71
15	19	1,670	704	301	75	203	77	107	72	69	281	71
16	17	1,530	536	271	75	205	77	71	72	69	279	71
17	17	813	451	252	262	276	78	72	72	69	277	71
18	16	410	313	222	425	326	78	72	72	69	276	71
19	16	522	247	205	427	327	78	72	72	69	274	71
20	41	562	250	589	427	225	79	72	72	69	273	71
21	97	395	250	995	335	155	79	72	72	69	271	71
22	77	287	250	1,000	189	224	80	71	71	69	268	71
23	79	157	217	670	153	272	80	71	71	69	267	71
24	73	113	195	591	154	273	80	71	71	69	265	71
25	56	115	195	1,040	155	274	80	71	71	69	262	71
26	49	117	223	767	155	204	117	71	71	69	262	70
27	50	108	244	373	106	109	196	71	71	69	259	69
28	50	104	223	114	73	75	232	71	71	174	258	69
29	48	105	206	121	------	75	180	71	71	240	256	69
30	44	105	184	681	------	75	153	77	71	238	254	69
31	41	------	158	1,650	------	140	------	176	------	238	179	------
TOTAL	1,041	9,373	14,670	13,959	8,392	4,955	3,065	3,370	2,395	2,761	7,963	2,481
MEAN	33.6	312	473	450	300	160	102	109	79.8	89.1	257	82.7
MAX	97	1,670	1,390	1,650	1,960	327	232	176	171	240	287	150
MIN	15	19	108	114	48	74	74	71	67	69	179	69
AC-FT	2,060	18,590	29,100	27,690	16,650	9,830	6,080	6,680	4,750	5,480	15,790	4,920

Adjusted for change in contents of Cottage Grove Reservoir

Mean	33.7	337	495	552	327	301	249	173	64.9	14.3	9.27	12.1
Cfsm	0.324	3.24	4.76	5.31	3.14	1.54	2.39	1.66	0.624	0.137	0.089	0.116
In.	0.37	3.62	5.48	6.12	3.28	3.33	2.67	1.91	0.70	0.16	0.10	0.13
Ac-ft	2,070	20,080	30,410	33,960	18,170	18,490	14,790	10,620	3,860	880	570	720

Observed

Cal yr 1966: Total 88,840 Mean 243 Max 3,070 Min 15 Ac-ft 176,200
Wat yr 1967: Total 74,425 Mean 204 Max 1,960 Min 15 Ac-ft 147,600

Adjusted

Cal yr 1966: Mean 243 Cfsm 2.34 In. 31.77 Ac-ft 176,200
Wat yr 1967: Mean 214 Cfsm 2.06 In. 27.87 Ac-ft 154,600

14-1545. Row River above Pitcher Creek, near Dorena, Oreg.

Location.--Lat 43°44'10", long 122°42'20", in NE¼ sec.24, T.21 S., R.2 W., on right bank 0.5 mile upstream from Pitcher Creek, 1.2 miles northwest of Dorena, and at mile 13.2.

Drainage area.--211 sq mi.

Records available.--September 1935 to September 1967. Prior to October 1949, published as "at Star."

Gage.--Digital water-stage recorder. Datum of gage is 856.16 ft above mean sea level, datum of 1929. Sept. 16, 1935, to Oct. 17, 1938, staff gage at site 450 ft upstream at datum 1.00 ft higher. Oct. 18, 1938, to Aug. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 597 cfs (432,200 acre-ft per year).

Extremes.--Maximum discharge during year, 8,550 cfs Jan. 28 (gage height, 9.82 ft); minimum, 13 cfs Sept. 8-10.

1935-67: Maximum discharge, 33,100 cfs Dec. 22, 1964 (gage height, 18.19 ft), from rating curve extended above 12,000 cfs on basis of slope-area measurement of peak flow; minimum, 10 cfs Sept. 24, 25, 1951, Oct. 7, 8, 1958.

Remarks.--Records excellent. Occasional fluctuation caused by upstream logponds. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	50	745	386	1,520	570	515	611	396	74	30	15
2	23	46	729	419	1,120	629	514	569	377	70	29	14
3	24	44	605	541	880	573	557	583	322	66	28	14
4	23	42	1,810	874	743	519	578	654	302	62	27	14
5	20	42	2,090	779	651	471	562	600	420	59	26	15
6	19	85	1,410	645	560	437	536	621	341	56	26	15
7	20	81	1,320	593	494	408	512	743	280	55	26	15
8	21	65	1,190	536	449	382	525	839	246	53	26	14
9	21	59	964	638	412	395	472	877	221	52	26	14
10	21	512	2,560	1,020	382	468	420	769	205	51	25	16
11	21	2,150	2,340	1,290	354	434	385	665	192	49	24	55
12	27	1,730	3,290	1,170	330	421	351	735	185	48	23	71
13	55	903	2,720	1,990	346	405	356	629	185	47	22	35
14	39	3,870	2,460	1,720	347	401	369	560	171	46	22	26
15	32	4,710	1,510	1,320	355	413	364	601	166	44	21	22
16	27	3,660	1,140	1,130	436	1,010	372	724	160	43	20	21
17	25	1,580	879	891	2,330	1,070	409	773	152	42	19	24
18	24	885	691	730	3,050	1,220	514	641	141	40	18	40
19	24	702	569	658	1,740	1,040	531	553	132	39	17	31
20	79	1,190	527	2,370	1,150	912	492	528	123	39	17	26
21	273	946	471	2,570	887	999	467	513	132	38	16	23
22	672	750	404	1,570	759	992	499	467	191	38	16	21
23	487	534	380	1,070	709	1,200	617	411	154	37	16	20
24	237	420	328	820	665	1,070	640	340	127	37	16	19
25	136	388	397	652	655	869	709	291	112	36	16	18
26	105	875	411	1,930	582	738	843	266	101	35	16	17
27	110	617	354	3,090	512	630	799	257	94	34	16	17
28	83	503	314	6,070	497	566	690	267	89	33	16	16
29	68	465	306	3,510	------	529	653	309	83	33	16	19
30	60	403	369	2,280	------	510	654	360	78	32	16	31
31	54	------	337	2,060	------	531	------	497	------	31	16	------
TOTAL	2,852	28,307	33,620	45,322	22,915	20,812	15,905	17,253	5,878	1,419	648	698
MEAN	92.0	944	1,085	1,462	818	671	530	557	196	45.8	20.9	23.3
MAX	672	4,710	3,290	6,070	3,050	1,220	843	877	420	74	30	71
MIN	19	42	306	386	330	382	351	257	78	31	16	14
CFSM	.44	4.47	5.14	6.93	3.88	3.18	2.51	2.64	.93	.22	.10	.11
IN.	.50	4.99	5.93	7.99	4.04	3.67	2.80	3.04	1.04	.25	.11	.12
AC-FT	5,660	56,150	66,680	89,890	45,450	41,280	31,550	34,220	11,660	2,810	1,290	1,380

CAL YR 1966: TOTAL 204,343 MEAN 560 MAX 9,880 MIN 12 CFSM 2.65 IN 36.02 AC-FT 405,300
WAT YR 1967: TOTAL 195,629 MEAN 536 MAX 6,070 MIN 14 CFSM 2.54 IN 34.48 AC-FT 388,000

Peak discharge (base, 7,000 cfs).--Jan. 28 (0830 hrs) 8,550 cfs (9.82 ft).

14-1550. Dorena Reservoir near Cottage Grove, Oreg.

Location.--Lat 43°47'10", long 122°57'15", in SE¼ sec.32, T.20 S., R.2 W., on left end of Dorena Dam on Row River, 5 miles east of Cottage Grove, and at mile 7.61.

Drainage area.--265 sq mi.

Records available.--October 1949 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 72,610 acre-ft May 31 (elevation, 832.38 ft); minimum, 6,480 acre-ft Jan. 9 (elevation, 769.50 ft).

1949-67: Maximum contents, 95,540 acre-ft Dec. 23, 1964 (elevation, 844.03 ft); minimum since first filling, 635 acre-ft Sept. 23, 1958 (elevation, 749.00 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete outlet and spillway, completed in 1949 by Corps of Engineers; controlled storage began Oct. 11, 1949. Capacity, 77,510 acre-ft between elevations 739.0 (sill of outlet gates) and 835.0 ft (crest of spillway). Dead storage, 8 acre-ft below elevation 739.0 ft. Reservoir used for flood control and improvement of navigation. Capacity table furnished by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

769	6,240	800	28,400
770	6,730	805	33,620
775	9,400	810	39,320
780	12,390	815	45,500
785	15,690	820	52,310
790	19,450	825	59,910
795	23,620	833	73,760

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12,680	6,930	8,070	7,740	29,520	26,670	43,450	61,740	72,340	69,810	58,510	23,610
2	12,520	6,910	8,260	7,780	23,390	27,510	44,070	61,970	72,240	69,670	57,330	22,790
3	12,340	6,910	7,910	7,990	18,500	28,040	44,750	62,640	72,130	69,560	56,160	21,990
4	12,190	6,910	11,070	9,050	16,130	28,570	45,460	63,510	72,130	69,360	54,990	21,210
5	12,020	6,910	13,190	9,100	14,580	28,970	46,150	64,240	72,500	69,170	53,830	20,700
6	11,850	7,060	12,130	8,470	13,730	29,230	46,760	65,010	72,560	68,990	52,680	20,500
7	11,660	7,130	11,330	7,720	13,470	29,460	47,280	65,930	72,410	68,810	51,560	20,320
8	11,500	7,110	10,230	6,820	13,850	29,590	47,710	66,640	72,240	68,640	50,490	20,110
9	11,330	7,110	7,720	6,900	14,570	30,020	48,270	67,320	72,170	68,440	49,410	19,910
10	11,150	7,540	10,790	7,520	15,190	30,910	48,740	67,670	72,130	68,210	48,350	19,780
11	10,980	7,750	11,430	7,990	15,610	31,680	49,250	67,750	72,100	68,020	47,230	19,710
12	10,860	7,180	14,090	7,890	15,980	32,410	49,690	67,960	72,040	67,840	46,170	19,660
13	10,800	6,840	16,090	8,230	16,480	33,120	50,210	67,960	72,020	67,650	45,110	19,510
14	10,700	13,710	13,280	7,230	16,930	33,790	50,720	67,790	71,970	67,440	44,050	19,340
15	10,560	24,030	8,810	7,080	17,440	34,470	51,340	68,140	71,910	67,230	42,990	19,170
16	10,420	31,470	7,120	7,160	18,290	36,210	51,930	69,030	71,860	66,020	41,920	19,000
17	10,270	28,440	7,090	7,030	22,960	37,470	52,620	70,040	71,750	66,790	40,830	18,850
18	10,120	22,420	7,150	6,860	26,100	38,240	53,580	70,570	71,660	66,570	39,700	18,720
19	9,960	16,840	7,270	7,530	24,910	37,820	54,580	70,780	71,460	66,330	38,580	18,580
20	9,980	12,470	7,320	11,850	23,870	37,480	55,460	70,950	71,310	66,100	37,520	18,410
21	9,850	8,810	7,190	14,070	23,800	37,770	56,280	71,060	71,370	65,900	36,410	18,270
22	10,540	7,900	6,720	13,840	24,230	38,300	57,160	71,290	71,420	65,710	35,150	18,100
23	11,020	7,860	7,070	13,840	24,710	39,140	58,280	71,550	71,380	65,480	33,860	17,920
24	10,820	7,850	7,090	13,690	25,130	39,500	59,430	71,640	71,260	65,260	32,600	17,730
25	10,220	7,770	7,460	10,810	25,450	39,270	60,600	71,660	71,070	65,060	31,340	17,510
26	9,590	8,840	7,850	10,880	25,460	39,400	61,690	71,680	70,880	64,620	30,090	17,270
27	8,960	8,740	8,080	15,910	25,460	40,070	62,150	71,790	70,680	64,180	28,860	17,010
28	8,320	8,160	8,010	29,030	25,720	40,790	62,210	71,950	70,460	63,220	27,650	16,750
29	7,750	7,470	8,020	36,610	----------	41,480	62,130	72,020	70,240	62,020	26,510	16,570
30	7,160	7,210	7,940	38,560	----------	42,100	61,980	72,370	69,970	60,870	25,300	16,380
31	6,970	----------	7,770	35,280	----------	42,810	----------	72,460	----------	59,680	24,430	----------
Max	12,680	31,470	16,090	38,560	29,520	42,810	62,210	72,460	72,560	69,810	58,510	23,610
Min	6,970	6,840	6,720	6,820	13,470	26,670	43,450	61,740	69,970	59,680	24,430	16,380
(†)	770.48	770.95	772.03	806.50	797.23	812.88	826.28	832.30	830.93	824.86	795.84	785.96
(‡)	-5,880	+240	+560	+27,510	-9,560	+17,090	+19,170	+10,480	-2,490	-10,290	-35,250	-8,050

Cal yr 1966: Max 59,370 Min 6,720 Ac-ft ‡ -340
Wtr yr 1967: Max 72,560 Min 6,720 Ac-ft ‡ +3,530

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

14-1555. Row River near Cottage Grove, Oreg.

Location.--Lat 43°47'35", long 122°59'25", in NE¼ sec.36, T.20 S., R.3 W., on right bank 1.7 miles upstream from Mosby Creek, 2.1 miles downstream from Dorena Dam, 3.5 miles east of Cottage Grove, and at mile 5.5.

Drainage area.--270 sq mi.

Records available.--January 1939 to September 1967. Prior to October 1947, published as "near Dorena."

Gage.--Digital water-stage recorder. Datum of gage is 685.24 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Jan. 5 to Oct. 12, 1939, staff gage at site 180 ft upstream at datum 1.00 ft higher. Oct. 13, 1939, to May 28, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--28 years, 756 cfs (547,300 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 5,180 cfs Nov. 17 (gage height, 8.14 ft); minimum, 54 cfs Nov. 2-6.

1939-67: Maximum discharge, 21,400 cfs Dec. 28, 1945 (gage height, 18.20 ft); minimum, 0.20 cfs Sept. 25 to Oct. 7, 1958.

Remarks.--Records good. Flow regulated since October 1949 by Dorena Reservoir (see sta. no. 1550). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	105	88	513	486	4,880	293	332	896	550	157	583	415
2	105	66	775	485	4,610	420	332	600	485	139	578	410
3	105	54	888	565	3,610	510	337	375	440	139	578	410
4	102	54	925	621	2,250	420	337	341	328	139	572	405
5	102	55	1,560	961	1,640	420	337	341	269	136	572	273
6	101	57	2,440	1,170	1,170	420	337	341	346	136	572	122
7	100	83	2,200	1,140	770	420	337	341	385	136	567	122
8	100	103	2,180	1,110	385	420	341	545	346	136	567	119
9	100	88	2,470	792	157	319	341	732	269	136	561	119
10	100	440	1,490	931	148	210	265	748	235	136	561	122
11	97	2,400	2,400	1,390	210	210	203	748	217	136	556	119
12	97	2,290	2,410	1,510	210	210	206	748	199	136	550	119
13	97	1,250	2,010	2,160	213	210	206	748	199	136	550	119
14	95	1,520	4,450	2,500	213	210	206	748	199	136	545	119
15	95	841	4,190	1,710	217	210	210	510	199	136	540	119
16	95	798	2,160	1,340	217	301	210	346	199	136	535	116
17	95	3,600	1,070	1,140	848	671	210	346	199	136	567	116
18	95	4,330	817	982	2,130	1,140	210	445	199	136	578	116
19	95	3,910	647	601	2,700	1,500	213	510	196	133	572	116
20	96	3,860	649	938	1,960	1,340	213	510	196	133	572	116
21	361	3,050	643	2,140	1,140	1,050	213	510	199	133	567	116
22	348	1,330	582	2,170	715	920	213	410	196	133	622	116
23	308	684	462	1,350	616	920	213	323	196	133	649	116
24	363	520	420	1,080	622	1,030	213	323	196	133	644	116
25	456	518	339	2,380	666	1,110	323	323	192	133	638	136
26	446	524	343	2,270	704	806	550	261	192	199	633	154
27	442	764	346	1,060	644	415	806	227	192	242	627	154
28	401	382	429	189	495	328	902	269	192	485	622	154
29	330	865	385	192	------	332	896	332	192	589	616	154
30	325	622	490	1,650	------	332	896	346	192	589	611	151
31	167	------	490	4,120	------	332	------	572	------	583	480	------
TOTAL	5,924	35,646	41,173	41,133	34,140	17,429	10,608	14,815	7,594	6,096	17,985	5,059
MEAN	191	1,188	1,328	1,327	1,219	562	354	478	253	197	580	169
MAX	456	4,330	4,450	4,120	4,880	1,500	902	896	550	589	649	415
MIN	95	54	339	189	148	210	203	227	192	133	480	116
AC-FT	11,750	70,700	81,670	81,590	67,720	34,570	21,040	29,390	15,060	12,090	35,670	10,030

Adjusted for change in contents in Dorena Reservoir

Mean	95.5	1,192	1,337	1,774	1,047	840	676	648	211	29.3	6.8	33.3
Cfsm	0.354	4.41	4.95	6.57	3.88	3.11	2.50	2.40	0.781	0.109	0.025	0.123
In.	0.41	4.93	5.71	7.58	4.04	3.59	2.79	2.77	0.87	0.12	0.03	0.14
Ac-ft	5,870	70,940	82,230	109,100	58,160	51,660	40,210	39,870	12,570	1,800	420	1,980

Observed

Cal yr 1966: Total 253,139 Mean 694 Max 5,120 Min 54 Ac-ft 502,100
Wat yr 1967: Total 237,602 Mean 651 Max 4,880 Min 54 Ac-ft 471,300

Adjusted

Cal yr 1966: Mean 693 Cfsm 2.57 In. 34.85 Ac-ft 501,800
Wat yr 1967: Mean 656 Cfsm 2.43 In. 32.97 Ac-ft 474,800

14-1565. Mosby Creek at mouth, near Cottage Grove, Oreg.

Location.--Lat 43°46'35", long 122°59'55", in SE¼NW¼ sec.1, T.21 S., R.3 W., on left bank 3.5 miles southeast of Cottage Grove, and at mile 1.0.

Drainage area.--95.3 sq mi.

Records available.--September 1946 to September 1967. Monthly discharge only September 1946, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 676.62 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (Corps of Engineers bench mark). Prior to Mar. 17, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--21 years, 247 cfs (178,800 acre-ft per year).

Extremes.--Maximum discharge during year, 3,020 cfs Jan. 28 (gage height, 5.96 ft); minimum, 3.0 cfs Sept. 4.

1946-67: Maximum discharge, 14,100 cfs Dec. 22, 1964 (gage height, 13.37 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum, 3.0 cfs Sept. 4, 1967.

Remarks.--Records good except those for periods of backwater from leaves or moss and shifting control, which are fair. No regulation. Small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	28	285	132	660	186	245	212	114	18	8.5	4.8
2	5.0	26	345	138	485	245	220	190	93	16	7.3	4.2
3	5.5	24	294	156	370	263	208	176	77	15	6.6	4.2
4	6.5	23	1,150	245	303	240	200	169	67	15	6.2	4.2
5	6.5	23	1,330	335	254	204	193	150	63	14	5.9	4.5
6	6.0	42	764	321	212	179	186	138	58	14	6.2	4.5
7	5.5	59	802	370	186	159	169	138	53	13	6.6	4.2
8	6.5	45	938	317	169	147	156	141	51	13	6.6	4.2
9	8.0	40	586	330	153	153	144	179	48	13	6.6	4.2
10	8.0	126	876	375	138	281	135	212	47	13	6.2	5.2
11	8.0	626	752	375	126	290	123	212	45	12	5.9	14
12	11	575	842	312	114	281	111	190	42	12	5.2	20
13	21	334	833	299	132	254	123	162	42	11	5.2	13
14	19	1,690	890	272	144	236	147	141	40	11	4.8	9.9
15	14	2,110	578	245	183	228	150	129	36	11	4.2	8.5
16	11	1,660	406	228	258	365	165	123	33	11	3.9	7.3
17	10	704	305	197	594	390	228	120	31	10	3.9	7.7
18	9.2	376	236	179	840	485	276	105	30	9.9	3.9	12
19	9.2	322	191	183	564	447	249	95	28	9.9	3.9	12
20	36	421	187	1,370	385	385	204	86	27	9.9	3.9	9.9
21	153	330	182	1,500	290	360	179	81	30	9.4	3.9	8.5
22	169	272	159	931	236	326	165	75	37	10	3.9	8.1
23	139	196	145	588	200	350	179	69	33	9.9	3.9	6.9
24	76	154	132	410	186	380	169	63	29	9.4	4.2	6.6
25	52	132	161	308	204	321	204	59	25	8.5	4.2	5.9
26	47	155	132	774	186	281	254	56	23	9.4	4.2	5.5
27	60	137	159	1,120	165	236	303	53	21	9.0	4.8	5.5
28	45	124	140	2,200	156	212	276	56	20	8.5	5.5	5.9
29	38	115	130	1,310	------	220	254	67	19	8.1	4.5	6.2
30	33	106	130	892	------	249	240	79	18	8.1	3.9	13
31	30	------	118	860	------	272	------	165	------	7.7	4.2	------
TOTAL	1,052.1	10,975	14,228	17,272	7,893	8,625	5,855	3,891	1,280	349.7	158.7	230.6
MEAN	33.9	366	459	557	282	278	195	126	42.7	11.3	5.12	7.69
MAX	169	2,110	1,330	2,200	840	485	303	212	114	18	8.5	20
MIN	4.2	23	118	132	114	147	111	53	18	7.7	3.9	4.2
CFSM	.36	3.84	4.82	5.85	2.96	2.92	2.05	1.32	.45	.12	.05	.08
IN.	.41	4.28	5.55	6.74	3.08	3.37	2.28	1.52	.50	.14	.06	.09
AC-FT	2,090	21,770	28,220	34,260	15,660	17,110	11,610	7,720	2,540	694	315	457

CAL YR 1966: TOTAL 80,163.4 MEAN 220 MAX 4,460 MIN 3.9 CFSM 2.30 IN 31.28 AC-FT 159,000
WAT YR 1967: TOTAL 71,810.1 MEAN 197 MAX 2,200 MIN 3.9 CFSM 2.06 IN 28.02 AC-FT 142,400

Peak discharge (base, 2,500 cfs).--Jan. 28 (0830 hrs) 3,020 cfs (5.96 ft).

Note.--Backwater from leaves or moss, Oct. 1-20, May 17 to Aug. 26. Shifting-control method used Jan. 1 to Apr. 16.

14-1575. Coast Fork Willamette River near Goshen, Oreg.

Location.--Lat 43°58'50", long 122°57'55", in NW¼ sec.29, T.18 S., R.2 W., on right bank at downstream side of bridge on State Highway 58, 2.5 miles southeast of Goshen, and at mile 6.4.

Drainage area.--642 sq mi.

Records available.--August 1905 to February 1912, October 1950 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 473.80 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Aug. 23, 1905, to Feb. 7, 1912, staff gage at site 600 ft upstream at different datum. Oct. 3, 1950, to Aug. 5, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--23 years (1905-11, 1950-67), 1,713 cfs (1,240,000 acre-ft per year).

Extremes.--Maximum discharge during year, 8,670 cfs Dec. 4 (gage height, 10.07 ft); minimum, 104 cfs Nov. 4.

1905-12, 1950-67: Maximum discharge, 58,500 cfs Nov. 22, 1909 (gage height, 19.5 ft, site and datum then in use); from rating curve extended above 15,000 cfs by logarithmic plotting; minimum, 36 cfs Sept. 29, 30, Oct. 11, 12, 1908.

Remarks.--Records excellent. Flow regulated since 1942 by Cottage Grove Reservoir (see sta. no. 1530) and since 1949 by Dorena Reservoir (see sta. no. 1550). Several small diversions for logponds and irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	157	182	1,270	935	8,280	964	987	1,490	1,090	290	815	554
2	145	157	1,600	937	7,230	943	934	1,290	873	254	815	546
3	148	135	1,670	1,010	5,430	1,260	880	924	802	248	806	540
4	148	116	3,980	1,320	3,590	1,030	769	836	616	241	802	535
5	145	112	6,370	2,170	2,700	959	761	802	* 463	245	797	514
6	145	120	6,140	2,460	2,110	905	753	770	478	238	796	246
7	145	157	6,950	2,280	1,540	860	720	752	569	237	789	219
8	142	203	5,980	2,140	1,070	828	692	815	538	237	784	211
9	145	182	5,470	* 1,870	646	821	668	1,150	450	241	778	210
10	145	264	4,870	1,760	523	1,090	630	1,290	388	237	788	224
11	148	2,680	4,310	2,410	595	963	492	1,310	372	234	818	253
12	148	3,900	5,530	2,540	584	1,010	473	1,260	347	230	816	241
13	160	2,380	3,680	2,900	670	985	492	1,210	347	231	809	233
14	172	4,540	6,780	3,330	760	927	583	1,170	343	230	801	224
15	170	6,590	6,510	2,720	918	873	583	1,030	336	232	786	220
16	145	5,780	4,220	2,190	961	1,010	610	657	330	234	778	216
17	142	5,040	2,390	1,850	1,670	1,440	* 816	641	327	227	792	225
18	145	5,700	1,930	1,690	3,690	2,300	847	664	323	225	819	227
19	145	5,230	1,440	1,450	4,120	2,650	806	772	316	226	817	225
20	161	4,220	1,470	3,620	3,390	2,400	721	768	311	227	816	223
21	428	4,540	1,440	7,000	2,280	1,960	665	755	325	226	810	221
22	577	2,480	1,340	5,450	1,580	1,720	640	718	347	231	833	217
23	560	1,530	1,120	4,230	1,250	1,800	621	547	341	235	888	215
24	471	1,030	1,040	1,970	1,200	1,970	595	542	328	223	880	215
25	558	974	966	4,310	1,290	1,990	688	545	322	222	876	212
26	530	991	998	4,670	1,280	1,780	1,140	525	316	240	875	247
27	541	1,090	980	4,550	* 1,250	1,110	1,660	438	314	328	871	249
28	520	1,270	967	4,850	965	854	1,770	449	* 309	449	858	247
29	436	1,240	923	3,280	------	892	1,670	589	305	817	852	256
30	424	1,100	996	3,240	------	963	1,560	606	301	826	846	271
31	356	------	956	6,690	------	958	------	935	------	825	748	------
TOTAL	8,402	63,933	94,286	91,822	61,572	40,215	25,226	26,250	12,827	9,386	25,359	8,436
MEAN	271	2,131	3,041	2,962	2,199	1,297	841	847	428	303	818	281
MAX	577	6,590	6,950	7,000	8,280	2,650	1,770	1,490	1,090	826	888	554
MIN	142	112	923	935	523	821	473	438	301	222	748	210
AC-FT	16,670	126,800	187,000	182,100	122,100	79,770	50,040	52,070	25,440	18,620	50,300	16,730

CAL YR 1966: TOTAL 562,586 MEAN 1,541 MAX 14,200 MIN 112 AC-FT 1,116,000
WAT YR 1967: TOTAL 457,714 MEAN 1,281 MAX 8,280 MIN 112 AC-FT 927,700

14-1585. McKenzie River at outlet of Clear Lake, Oreg.

Location.--Lat 44°21'40", long 121°59'40", in SE¼ sec.8, T.14 S., R.7 E., on west bank of Clear Lake in narrow channel, 150 ft upstream from outlet and at mile 89.6.

Drainage area.--92.4 sq mi.

Records available.--June 1912 to September 1915, October 1947 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 3,015.32 ft above mean sea level (levels by Eugene Water and Electric Board). June 20, 1912, to July 31, 1915, float gage at site 1 mile north at different datum. Oct. 23, 1947, to June 30, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 475 cfs (343,900 acre-ft per year).

Extremes.--Maximum discharge during year, 878 cfs May 23 (gage height, 5.13 ft, backwater from logs); minimum, 170 cfs Oct. 19.

1912-15, 1947-67: Maximum discharge, 3,300 cfs Dec. 23, 1964 (gage height, 8.15 ft); minimum daily, 160 cfs Sept. 29, 30, 1915.

Remarks.--Records good prior to Nov. 14, fair thereafter. Flow regulated by natural storage in lake. At high stages an undetermined flow enters numerous sinkholes in lava rock along south edge of lake above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	190	212	440	392	650	386	378	345	654	395	276	222
2	190	210	431	386	626	386	378	340	644	392	274	220
3	188	206	419	389	617	380	375	340	629	386	272	218
4	188	202	416	389	614	378	375	340	617	383	268	218
5	188	202	413	386	587	375	375	348	608	378	266	216
6	186	200	407	383	590	375	375	352	596	373	264	216
7	186	196	407	378	566	372	372	360	575	368	262	216
8	184	194	407	370	542	370	370	365	564	363	260	216
9	182	194	401	365	512	370	370	380	590	358	260	214
10	180	196	407	362	485	372	370	392	563	355	258	216
11	180	212	410	362	467	368	370	413	548	350	256	220
12	182	230	431	362	449	365	370	452	534	345	254	212
13	182	252	512	368	443	362	370	518	503	340	254	210
14	178	310	674	368	431	360	370	557	488	340	254	208
15	176	338	662	372	419	358	370	599	482	340	254	208
16	176	375	611	378	407	358	370	674	479	335	252	208
17	174	437	587	383	404	355	370	782	479	330	252	208
18	174	464	578	389	404	355	368	826	479	325	250	206
19	172	473	572	401	401	350	368	822	482	318	250	204
20	184	533	578	437	398	352	365	834	479	313	248	204
21	180	563	572	449	398	352	362	847	470	308	240	202
22	190	557	557	455	395	355	362	850	464	303	236	200
23	188	539	530	458	389	360	362	850	446	300	234	198
24	198	521	509	452	392	362	360	814	431	295	232	196
25	212	509	491	446	389	365	360	774	422	293	230	196
26	222	521	470	443	389	370	358	746	413	290	230	194
27	222	509	455	464	386	370	358	730	410	288	228	192
28	220	482	434	614	386	375	355	726	404	288	226	192
29	220	464	416	810	------	375	350	738	401	285	226	192
30	218	452	407	798	------	380	348	734	398	283	224	194
31	214	------	395	714	------	380	------	702	------	278	222	------
TOTAL	5,924	10,753	14,999	13,723	13,136	11,391	11,004	18,550	15,252	10,298	7,712	6,216
MEAN	191	358	484	443	469	367	367	598	508	332	249	207
MAX	222	563	674	810	650	386	378	850	654	395	276	222
MIN	172	194	395	362	386	350	348	340	398	278	222	192
CFSM	2.07	3.88	5.24	4.79	5.08	3.98	3.97	6.48	5.50	3.60	2.69	2.24
IN.	2.38	4.33	6.04	5.52	5.29	4.58	4.43	7.47	6.14	4.14	3.10	2.50
AC-FT	11,750	21,330	29,750	27,220	26,050	22,590	21,830	36,790	30,250	20,430	15,300	12,330

CAL YR 1966: TOTAL 140,987 MEAN 386 MAX 1,080 MIN 172 CFSM 4.18 IN 56.75 AC-FT 279,600
WAT YR 1967: TOTAL 138,958 MEAN 381 MAX 850 MIN 172 CFSM 4.12 IN 55.93 AC-FT 275,600

14-1587.9 Smith River above Smith River Reservoir, near Belknap Springs, Oreg.

Location.--Lat 44°20'05", long 122°02'45", in SW¼SW¼ sec.24, T.14 S., R.6 E., on right bank 200 ft upstream from Smith River Reservoir, 0.7 mile downstream from Browder Creek, 10 miles north of town of Belknap Springs, and at mile 4.4.

Drainage area.--16.2 sq mi.

Records available.--October 1960 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,610.00 ft above mean sea level (levels by Eugene Water and Electric Board). Prior to Sept. 10, 1964, at datum 1.56 ft higher. Oct. 19, 1960 to July 12, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--7 years, 90.7 cfs (65,660 acre-ft per year).

Extremes.--Maximum discharge during year, 680 cfs Jan. 28 (gage height, 7.74 ft); minimum discharge, 3.2 cfs Sept. 24-29.

1960-67: Maximum discharge, 5,160 cfs Dec. 22, 1964 (gage height, 11.9 ft, from floodmark), from rating curve extended above 560 cfs on basis of slope-area measurement of peak flow; minimum, 3.2 cfs Sept. 24-29, 1967.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	11	114	56	170	77	50	38	148	21	5.4	3.6
2	4.6	10	103	49	146	73	49	43	150	19	5.2	3.6
3	4.4	9.0	97	100	123	65	53	58	148	17	5.1	3.6
4	3.9	9.0	108	116	112	61	60	77	158	16	4.9	3.6
5	3.9	11	99	98	105	58	60	97	158	14	4.9	3.6
6	3.9	18	89	84	95	58	53	125	148	14	4.8	3.6
7	3.9	13	82	71	92	57	58	165	136	12	4.8	3.5
8	4.0	12	72	67	87	58	67	231	117	12	4.7	3.4
9	4.0	13	73	60	85	57	63	291	105	11	4.6	3.4
10	4.0	24	216	60	84	55	61	228	92	11	4.6	4.6
11	6.0	260	272	86	82	49	60	172	82	10	4.6	13
12	8.0	340	406	89	79	45	60	146	77	9.8	4.5	5.1
13	9.0	180	610	165	81	43	64	136	76	9.3	4.3	4.1
14	6.5	500	424	192	74	40	60	148	82	8.8	4.3	3.9
15	5.0	580	277	219	71	39	53	198	89	8.5	4.2	3.7
16	4.8	400	213	200	65	51	51	312	93	8.1	4.2	3.7
17	4.6	247	185	156	79	58	47	376	90	7.8	4.2	3.8
18	4.4	170	162	127	105	65	45	348	85	7.6	4.1	4.0
19	4.4	172	156	129	92	60	40	330	77	7.3	4.0	3.7
20	34	204	154	162	82	82	39	360	74	7.2	4.0	3.7
21	26	180	138	121	74	105	39	388	60	6.9	4.0	3.6
22	140	144	119	101	68	124	40	372	52	6.8	4.0	3.5
23	100	114	110	85	67	175	41	319	44	6.7	3.9	3.4
24	40	99	93	77	65	138	44	252	40	6.4	3.9	3.3
25	30	110	84	70	64	114	45	202	37	6.3	3.8	3.3
26	24	126	73	109	60	97	45	180	34	6.2	3.8	3.3
27	20	105	63	383	60	84	44	175	31	6.1	3.8	3.3
28	19	96	58	625	64	76	41	195	28	5.9	3.7	3.3
29	16	88	58	492	------	65	39	195	25	5.8	3.7	4.5
30	14	96	55	336	------	61	38	180	23	5.6	3.7	12
31	12	------	50	225	------	55	------	154	------	5.5	3.6	------
TOTAL	568.5	4,341.0	4,813	4,910	2,431	2,245	1,509	6,491	2,559	299.6	133.3	128.7
MEAN	18.3	145	155	158	86.8	72.4	50.3	209	85.3	9.66	4.30	4.29
MAX	140	580	610	625	170	175	67	388	158	21	5.4	13
MIN	3.9	9.0	50	49	60	39	38	38	23	5.5	3.6	3.3
CFSM	1.13	8.93	9.58	9.78	5.36	4.47	3.10	12.9	5.27	.60	.27	.26
IN.	1.31	9.97	11.0	11.3	5.58	5.15	3.46	14.9	5.87	.69	.31	.30
AC-FT	1,130	8,610	9,550	9,740	4,820	4,450	2,990	12,870	5,080	594	264	255

CAL YR 1966: TOTAL 34,728.2 MEAN 95.1 MAX 668 MIN 3.9 CFSM 5.87 IN 79.72 AC-FT 68,880
WAT YR 1967: TOTAL 30,429.1 MEAN 83.4 MAX 625 MIN 3.3 CFSM 5.15 IN 69.86 AC-FT 60,360

Peak discharge (base, 800 cfs).--No peaks above base.

Note.--No gage-height record Oct. 8 to Nov. 14.

14-1587.95 Smith River Reservoir near Belknap Springs, Oreg.

Location.--Lat 44°18'20", long 122°02'40", in SW¼SW¼ sec.36, T.14 S., R.6 E., in intake tower near left end of Smith River Dam on Smith River, 800 ft upstream from Bunchgrass Creek, 8 miles north of town of Belknap Springs, and at mile 2.1.

Drainage area.--18.2 sq mi.

Records available.--March 1963 to September 1967.

Gage.--Telemark with equipment to transmit elevations at 15-minute intervals. Datum of gage is at mean sea level (levels by Eugene Water and Electric Board).

Extremes.--Maximum contents during year, 14,900 acre-ft Oct. 3 (elevation, 2,604.60 ft); minimum, 12,500 acre-ft Dec. 29 (elevation, 2,589.74 ft).

1963-67: Maximum contents, 15,200 acre-ft Dec. 22, 1964 (elevation, 2,605.5 ft); minimum since first filling, 5,700 acre-ft Apr. 11, 14, 1964 (elevation, 2,532.90 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway completed in 1963 by Eugene Water and Electric Board; storage began Mar. 18, 1963. Total capacity is 15,000 acre-ft and usable capacity is 9,900 acre-ft between elevations 2,525.0 (minimum power pool) and 2,605.0 ft (top of spillway gates). Storage of 5,100 acre-ft below elevation 2,525.0 ft not normally available for release. Water used for power generation. Figures given herein represent total contents.

Cooperation.--Area-volume curves furnished by Eugene Water and Electric Board.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,603.26	14,700	-
Oct. 31	2,601.94	14,500	-200
Nov. 30	2,595.87	13,500	-1,000
Dec. 31	2,591.06	12,700	-800
Calendar year 1966	-	-	-500
Jan. 31	2,591.49	12,700	0
Feb. 28	2,598.69	13,900	+1,200
Mar. 31	2,595.44	13,400	-500
Apr. 30	2,596.42	13,500	+100
May 31	2,602.37	14,500	+1,000
June 30	2,602.94	14,600	+100
July 31	2,602.15	14,500	-100
Aug. 31	2,602.75	14,600	+100
Sept. 30	2,602.64	14,600	0
Water year 1966-67	-	-	-100

† Gage read at 2400 hrs.

14-1588.5. McKenzie River below Trail Bridge Dam, near Belknap Springs, Oreg.

Location.--Lat 44°16'05", long 122°02'55", in T.15 S., R.6 E. (unsurveyed), on left bank 0.4 mile downstream from Trail Bridge Dam, 0.5 mile upstream from Anderson Creek, 5 miles north of town of Belknap Springs, and at mile 81.5.

Drainage area.--184 sq mi.

Records available.--October 1959 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,980.00 ft above mean sea level (levels by Eugene Water and Electric Board). Oct. 1, 1959 to Oct. 10, 1963, graphic water-stage recorder, at datum 5.60 ft higher. Oct. 11, 1963 to July 7, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--8 years, 1,026 cfs (742,800 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 2,080 cfs Jan. 28 (gage height, 7.84 ft); minimum, 510 cfs Nov. 8.

1959-67: Maximum discharge, 11,200 cfs Dec. 22, 1964 (gage height, 12.45 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; minimum, 185 cfs Feb. 3, 1963; minimum daily, 425 cfs Nov. 23, 1964.

Remarks.--Records good. Flow regulated since 1963 by Smith River Reservoir (see sta. no. 1587.95). Diurnal fluctuations by powerplants and by Trail Bridge reregulating reservoir upstream. Water is diverted from McKenzie River in SW¼ sec.20, T.14 S., R.7 E., to Smith River Reservoir and returned to river above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	624	648	1,040	887	1,500	1,010	846	788	1,380	884	758	663
2	611	643	1,040	864	1,560	1,020	775	856	1,240	882	700	665
3	615	614	1,010	973	1,190	1,030	851	877	1,310	885	691	662
4	614	585	1,080	1,100	1,230	935	964	933	1,250	882	738	655
5	611	572	1,140	1,040	1,270	827	974	891	1,290	845	713	655
6	615	614	1,030	1,030	1,140	878	1,000	891	1,260	875	679	655
7	616	717	999	1,040	1,230	903	906	933	1,170	1,020	694	646
8	613	566	944	1,020	1,160	947	799	1,030	1,170	1,040	718	645
9	610	623	908	874	1,110	981	814	1,220	1,020	945	697	652
10	613	648	1,100	901	1,010	1,020	947	1,160	824	924	680	645
11	601	785	1,260	999	974	1,020	905	1,070	859	868	689	698
12	585	1,010	1,570	928	988	919	912	1,030	981	867	663	648
13	598	865	1,660	1,000	1,160	833	1,030	1,070	1,000	868	623	660
14	606	1,250	1,710	1,150	1,120	902	891	1,140	989	859	645	660
15	617	1,630	1,570	1,220	1,030	843	1,080	1,190	1,050	799	727	674
16	596	1,410	1,320	1,190	1,040	874	1,090	1,310	971	792	735	696
17	598	1,230	1,310	1,050	1,000	895	947	1,430	1,050	875	693	688
18	599	1,070	1,240	972	1,050	871	863	1,370	996	892	661	666
19	599	1,170	1,170	1,140	1,050	915	770	1,380	991	750	683	656
20	628	1,170	1,270	1,220	1,020	922	842	1,440	998	729	709	613
21	658	1,210	1,290	1,170	963	905	800	1,560	987	797	686	593
22	739	1,220	1,270	1,130	941	924	807	1,550	954	763	670	587
23	652	1,150	1,180	1,050	966	1,060	782	1,480	983	697	665	580
24	651	1,150	1,070	1,060	955	947	794	1,430	946	722	666	579
25	654	1,090	1,030	1,040	913	882	794	1,400	935	781	658	584
26	668	1,170	1,010	1,110	836	846	849	1,400	914	762	705	636
27	686	1,050	1,070	1,400	906	917	919	1,370	914	744	684	645
28	688	1,150	1,090	1,860	998	980	926	1,380	914	740	662	628
29	667	1,030	998	1,870	------	1,050	870	1,430	885	695	660	621
30	649	1,050	891	1,640	------	1,080	794	1,350	886	730	645	678
31	650	------	905	1,670	------	917	------	1,360	------	758	644	------
TOTAL	19,531	29,090	36,175	35,598	30,310	29,053	26,541	37,719	31,117	25,670	21,241	19,333
MEAN	630	970	1,167	1,148	1,083	937	885	1,217	1,037	828	685	644
MAX	739	1,630	1,710	1,870	1,560	1,080	1,090	1,560	1,380	1,040	758	698
MIN	585	566	891	864	836	827	770	788	824	695	623	579
AC-FT	38,740	57,700	71,750	70,610	60,120	57,630	52,640	74,810	61,720	50,920	42,130	38,350

Adjusted for change in contents of Smith River Reservoir

Mean	627	953	1,154	1,148	1,104	929	886	1,233	1,039	827	687	644
Cfsm	3.41	5.18	6.27	6.24	6.00	5.05	4.82	6.70	5.65	4.49	3.73	3.50
In.	3.93	5.78	7.23	7.20	6.25	5.82	5.37	7.73	6.30	5.18	4.30	3.91
Ac-ft	38,540	56,700	70,950	70,610	61,320	57,130	52,740	75,810	61,820	50,820	42,230	38,350

Observed

Cal yr 1966: Total 351,753 Mean 964 Max 1,780 Min 530 Ac-ft 697,700
Wat yr 1967: Total 341,378 Mean 935 Max 1,870 Min 566 Ac-ft 677,100

Adjusted

Cal yr 1966: Mean 963 Cfsm 5.23 In. 71.05 Ac-ft 697,200
Wat yr 1967: Mean 935 Cfsm 5.08 In. 68.99 Ac-ft 677,000

14-1590. McKenzie River at McKenzie Bridge, Oreg.

Location.--Lat 44°10'45", long 122°07'45", on line between NE¼ and NW¼ sec.18, T.16 S., R.6 E., on left bank 1.0 mile upstream from Glen Creek, 1.7 miles east of town of McKenzie Bridge, and at mile 69.9.

Drainage area.--348 sq mi at cableway 1.2 miles upstream, where all discharge measurements are made.

Records available.--August 1910 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "near McKenzie Bridge" August 1910 to September 1911 and October 1914 to September 1916.

Gage.--Digital water-stage recorder. Datum of gage is 1,419.04 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 2, 1932, staff gage at several sites within 2 miles of present site at various datums. June 3, 1932 to May 27, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--57 years, 1,660 cfs (1,202,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,380 cfs Jan. 28 (gage height, 3.53 ft); minimum, 893 cfs Nov. 8.

1910-67: Maximum discharge, 19,100 cfs Dec. 22, 1964 (gage height, 10.36 ft), from rating curve extended above 7,100 cfs on basis of slope-area measurement of peak flow; minimum, 805 cfs Oct. 20, 1931.

Remarks.--Records excellent. Flow regulated since 1963 by Smith River Reservoir (see sta. no. 1587.95). No diversion above station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	958	986	1,600	1,450	2,720	1,670	1,420	1,270	2,040	1,370	1,210	1,040
2	948	981	1,560	1,410	2,730	1,660	1,340	1,340	1,870	1,370	1,150	1,040
3	946	955	1,530	1,620	2,180	1,670	1,380	1,370	1,930	1,370	1,140	1,040
4	945	927	1,650	1,860	2,140	1,540	1,520	1,450	1,900	1,370	1,170	1,030
5	943	925	1,740	1,750	2,200	1,400	1,530	1,420	1,950	1,340	1,150	1,030
6	942	966	1,630	1,710	1,930	1,430	1,550	1,450	1,900	1,370	1,120	1,020
7	945	1,060	1,600	1,690	2,050	1,450	1,460	1,550	1,770	1,520	1,120	1,010
8	942	926	1,500	1,650	1,900	1,490	1,340	1,730	1,760	1,570	1,150	1,010
9	938	969	1,460	1,470	1,840	1,560	1,340	2,030	1,590	1,470	1,130	1,020
10	941	1,040	1,910	1,480	1,710	1,590	1,480	1,930	1,360	1,450	1,110	1,020
11	933	1,400	2,280	1,690	1,630	1,580	1,430	1,750	1,370	1,380	1,120	1,100
12	938	1,850	3,100	1,660	1,630	1,460	1,410	1,630	1,500	1,380	1,080	1,020
13	935	1,440	3,580	2,150	1,820	1,350	1,590	1,670	1,550	1,380	1,050	1,030
14	938	2,320	3,450	2,340	1,780	1,410	1,400	1,730	1,520	1,360	1,050	1,020
15	946	3,110	2,930	2,370	1,670	1,360	1,590	1,880	1,610	1,320	1,130	1,040
16	928	2,600	2,460	2,300	1,690	1,410	1,620	2,120	1,520	1,280	1,140	1,050
17	928	2,100	2,330	1,990	1,750	1,480	1,460	2,440	1,600	1,360	1,110	1,060
18	928	1,730	2,170	1,780	1,960	1,490	1,380	2,340	1,550	1,390	1,060	1,030
19	926	1,820	1,990	1,960	1,850	1,510	1,250	2,300	1,520	1,270	1,090	1,020
20	1,030	1,900	2,120	2,300	1,770	1,570	1,320	2,390	1,540	1,220	1,110	974
21	1,030	1,900	2,100	2,130	1,670	1,590	1,280	2,590	1,520	1,270	1,090	958
22	1,240	1,840	1,990	1,970	1,610	1,640	1,280	2,580	1,470	1,260	1,070	950
23	1,110	1,730	1,880	1,830	1,630	1,870	1,270	2,410	1,490	1,180	1,060	942
24	1,050	1,690	1,720	1,800	1,610	1,720	1,280	2,220	1,450	1,200	1,060	941
25	1,030	1,660	1,680	1,750	1,560	1,580	1,290	2,110	1,430	1,240	1,040	944
26	1,040	1,770	1,610	2,030	1,440	1,510	1,350	2,080	1,410	1,240	1,080	979
27	1,050	1,590	1,640	3,000	1,500	1,540	1,430	2,040	1,400	1,210	1,080	994
28	1,040	1,700	1,670	4,130	1,610	1,610	1,440	2,090	1,400	1,210	1,040	981
29	1,010	1,530	1,570	3,870	------	1,650	1,370	2,190	1,370	1,160	1,040	975
30	990	1,560	1,440	3,300	------	1,710	1,290	2,070	1,370	1,180	1,020	1,050
31	987	------	1,430	3,110	------	1,510	------	2,020	------	1,200	1,020	------
TOTAL	30,455	46,975	61,320	65,550	51,580	48,010	42,090	60,190	47,660	40,890	33,990	30,318
MEAN	982	1,566	1,978	2,115	1,842	1,549	1,403	1,942	1,589	1,319	1,096	1,011
MAX	1,240	3,110	3,580	4,130	2,730	1,870	1,620	2,590	2,040	1,570	1,210	1,100
MIN	926	925	1,430	1,410	1,440	1,350	1,250	1,270	1,360	1,160	1,020	941
AC-FT	60,410	93,170	121,600	130,000	102,300	95,230	83,480	119,400	94,530	81,100	67,420	60,130

CAL YR 1966: TOTAL 567,566 MEAN 1,555 MAX 3,730 MIN 925 AC-FT 1,126,000
WAT YR 1967: TOTAL 559,028 MEAN 1,532 MAX 4,130 MIN 925 AC-FT 1,109,000

14-1591. Horse Creek near McKenzie Bridge, Oreg.

Location.--Lat 44°09'45", long 122°09'05", in SW¼ sec.24, T.16 S., R.5 E., on right bank 450 ft upstream from bridge on Horse Creek road, 1.0 mile southeast of McKenzie Bridge, and at mile 3.4.

Drainage area.--149 sq mi.

Records available.--October 1962 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,428.17 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Mar. 15, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--5 years, 518 cfs (375,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,730 cfs Jan. 28 (gage height, 3.65 ft); minimum, 230 cfs Oct. 5, 6.

1962-67: Maximum discharge, 8,580 cfs Dec. 22, 1964 (gage height, 7.77 ft), from rating curve extended above 3,700 cfs on basis of slope-area measurement at 8,560 cfs; maximum gage height, 8.30 ft Dec. 24, 1964 (backwater from debris); minimum discharge, 230 cfs Sept. 8-10, Oct. 5, 6, 1966.

Flood of Dec. 28, 1945, reached a stage of 7.25 ft present datum (discharge, 7,500 cfs, from rating curve extended above 3,600 cfs by logarithmic plotting).

Remarks.--Records excellent except for periods of backwater from debris in November or shifting control, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	234	273	455	394	825	474	428	372	720	460	290	254
2	240	267	408	377	735	467	425	372	675	456	287	251
3	238	267	384	427	670	446	428	390	640	446	284	245
4	235	267	435	475	628	435	439	404	660	425	284	248
5	233	270	435	443	588	428	439	418	685	411	281	245
6	235	291	423	419	556	421	425	435	660	400	281	245
7	235	273	415	401	537	414	428	477	648	390	281	245
8	238	270	398	391	526	411	428	537	632	383	278	245
9	235	276	398	391	505	425	421	600	600	372	275	243
10	235	349	625	412	491	418	421	580	592	369	275	251
11	238	612	680	479	477	400	414	537	568	362	275	320
12	264	745	1,040	491	470	390	407	509	556	362	272	269
13	270	467	1,340	735	474	393	414	484	556	356	269	251
14	255	790	1,140	720	463	383	407	491	560	347	269	245
15	250	934	899	690	456	383	397	537	572	344	266	243
16	245	805	795	670	453	435	397	636	588	338	266	243
17	245	571	695	598	509	456	390	780	604	335	266	243
18	243	499	630	549	568	463	393	800	608	332	266	248
19	243	487	589	553	509	446	383	805	604	329	263	245
20	327	598	571	705	481	470	379	840	620	323	263	243
21	318	531	535	630	463	498	372	920	584	320	263	240
22	479	479	499	567	453	523	376	968	572	320	263	240
23	401	439	479	527	449	584	376	938	526	317	260	238
24	330	401	455	511	449	544	379	835	509	314	260	238
25	303	423	455	487	453	523	393	750	505	311	260	238
26	297	479	427	695	439	502	393	695	509	308	260	235
27	294	423	408	1,050	435	481	393	685	498	305	260	235
28	279	408	398	1,570	442	467	383	755	484	302	257	235
29	273	398	398	1,390	------	456	379	800	477	299	257	243
30	273	401	387	1,140	------	449	372	755	470	299	254	269
31	273	------	380	962	------	439	------	665	------	293	254	------
TOTAL	8,458	13,693	17,575	19,849	14,504	14,024	12,079	19,770	17,482	10,928	8,339	7,433
MEAN	273	456	567	640	518	452	403	638	583	353	269	248
MAX	479	934	1,340	1,570	825	584	439	968	720	460	290	320
MIN	233	267	380	377	435	383	372	372	470	293	254	235
CFSM	1.83	3.06	3.80	4.30	3.48	3.04	2.70	4.28	3.91	2.37	1.81	1.66
IN.	2.11	3.42	4.39	4.95	3.62	3.50	3.01	4.93	4.36	2.73	2.08	1.86
AC-FT	16,780	27,160	34,860	39,370	28,770	27,820	23,960	39,210	34,680	21,680	16,540	14,740

CAL YR 1966: TOTAL 172,142 MEAN 472 MAX 1,620 MIN 233 CFSM 3.17 IN 42.97 AC-FT 341,400
WAT YR 1967: TOTAL 164,134 MEAN 450 MAX 1,570 MIN 233 CFSM 3.02 IN 40.97 AC-FT 325,600

Peak discharge (base, 1,500 cfs).--Jan. 28 (0830) 1,730 cfs (3.65 ft).

Note.--Shifting-control method used Nov. 30 to Jan. 27.

14-1592. South Fork McKenzie River above Cougar Reservoir, near Rainbow, Oreg.

Location.--Lat 44°02'50", long 122°13'00", in T.17 S., R.5 E., (unsurveyed, on right bank 100 ft upstream from Tipsoo Creek, 8 miles south of Rainbow, 9 miles southeast of town of Blue River, and at mile 10.4. Records include flow of Tipsoo Creek.

Drainage area.--160 sq mi at cableway 0.2 mile downstream, where all discharge measurements are made.

Records available.--October 1957 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,709.51 ft above mean sea level (Corps of Engineers bench mark). Prior to Aug. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 626 cfs (453,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,330 cfs Jan. 28 (gage height, 8.79 ft); minimum, 191 cfs Oct. 10, 11.

1957-67: Maximum discharge, 18,400 cfs Dec. 22, 1964 (gage height, 20.06 ft from floodmark), from rating curve extended above 7,600 cfs on basis of slope-area measurement of peak flow; minimum, 191 cfs Oct. 10, 11, 1966.

Remarks.--Records good except those for period of shifting control, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	196	216	594	474	1,190	612	507	437	850	324	229	213
2	198	213	575	447	1,030	600	489	437	815	312	229	213
3	197	211	540	524	915	563	500	465	785	303	227	213
4	195	209	615	611	845	538	545	514	815	294	227	213
5	195	215	640	590	800	517	552	552	835	288	227	211
6	194	236	604	550	744	503	535	604	820	280	227	211
7	195	219	577	509	704	493	531	720	785	278	225	211
8	195	214	530	485	668	482	535	890	752	273	225	211
9	195	220	510	478	644	507	521	1,020	712	270	225	211
10	194	359	851	504	620	500	524	940	684	265	225	215
11	196	950	999	620	596	472	507	825	652	260	225	275
12	212	1,110	1,650	684	573	451	500	752	636	258	223	238
13	220	695	2,030	1,210	584	451	503	704	632	255	221	221
14	207	1,310	1,880	1,180	559	433	493	704	620	253	221	215
15	203	1,750	1,380	1,110	552	430	472	800	616	250	221	213
16	201	1,470	1,150	1,060	549	514	468	1,040	616	248	219	213
17	199	984	1,010	891	716	577	461	1,320	612	245	219	213
18	199	726	901	779	905	596	472	1,350	592	245	219	213
19	198	670	824	759	764	566	461	1,310	570	243	219	213
20	310	859	779	989	684	584	451	1,360	552	243	217	211
21	278	782	717	935	636	652	444	1,480	535	240	217	211
22	507	677	658	783	608	708	444	1,490	552	240	217	209
23	445	593	612	697	596	890	447	1,400	496	238	217	209
24	328	531	575	647	596	800	458	1,200	451	235	217	207
25	277	545	586	604	592	720	472	1,050	423	235	215	207
26	263	635	540	1,070	563	664	482	950	399	233	215	207
27	253	567	506	1,830	545	616	486	920	381	233	215	205
28	238	542	482	2,960	559	588	472	975	363	233	217	205
29	227	518	479	2,310	------	559	461	1,050	351	231	217	209
30	223	513	465	1,770	------	542	447	1,000	336	231	215	231
31	220	------	443	1,450	------	524	------	880	------	231	213	------
TOTAL	7,358	18,739	24,702	29,510	19,337	17,652	14,640	29,139	18,238	7,967	6,845	6,447
MEAN	237	625	797	952	691	569	488	940	608	257	221	215
MAX	507	1,750	2,030	2,960	1,190	890	552	1,490	850	324	229	275
MIN	194	209	443	447	545	430	444	437	336	231	213	205
CFSM	1.48	3.90	4.98	5.95	4.32	3.56	3.05	5.87	3.80	1.61	1.38	1.34
IN.	1.71	4.36	5.74	6.86	4.49	4.10	3.40	6.77	4.24	1.85	1.59	1.50
AC-FT	14,590	37,170	49,000	58,530	38,350	35,010	29,040	57,800	36,170	15,800	13,580	12,790

CAL YR 1966: TOTAL 202,686 MEAN 555 MAX 2,940 MIN 194 CFSM 3.47 IN 47.11 AC-FT 402,000
WAT YR 1967: TOTAL 200,574 MEAN 550 MAX 2,960 MIN 194 CFSM 3.43 IN 46.62 AC-FT 397,800

Peak discharge (base, 2,500 cfs).--Jan. 28 (0830 hrs) 3,330 cfs (8.79 ft).

Note.--Shifting-control method used Nov. 10 to Dec. 13.

14-1594. Cougar Reservoir near Rainbow, Oreg.

Location.--Lat 44°07'40", long 122°14'25", in SE¼SE¼ sec.31, T.16 S., R.5 E., in intake tower near left end of Cougar Dam on South Fork McKenzie River, 2.7 miles south of Rainbow, and at mile 4.5.

Drainage area.--207 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 210,300 acre-ft June 29 (elevation, 1,691.90 ft); minimum, 58,810 acre-ft Dec. 28 (elevation, 1,523.69 ft).

1963-67: Maximum contents, 214,100 acre-ft July 13, 1966 (elevation, 1,694.93 ft); minimum since first filling, 32,500 acre-ft Oct. 31 to Nov. 2, 1965 (elevation, 1,475.40 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway completed in 1963 by the Corps of Engineers; storage began September 1963. Total capacity is 219,300 acre-ft and usable capacity is 165,100 acre-ft between elevations 1,516 (minimum power pool) and 1,699 ft. Reservoir used for flood control and power generation. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,520	56,550
1,550	76,100
1,600	115,000
1,650	162,500
1,692	210,400

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	161,000	113,500	64,280	59,270	89,400	106,100	135,000	138,700	191,600	210,000	200,000	186,200
2	159,400	112,300	62,920	59,340	86,600	107,100	135,600	139,200	191,900	209,800	199,600	184,900
3	157,800	109,300	62,890	59,830	83,400	108,000	136,000	139,700	193,000	209,600	199,200	183,600
4	156,300	107,100	63,330	60,750	80,360	108,800	136,900	140,500	194,200	209,400	198,800	182,300
5	154,600	105,000	63,790	61,420	80,240	109,500	137,700	141,300	195,400	209,100	198,400	181,000
6	153,100	103,000	63,880	61,910	80,310	110,200	138,500	142,300	196,900	208,900	198,000	179,600
7	151,500	100,900	63,830	62,230	81,210	110,800	139,300	143,700	198,100	208,600	197,600	178,300
8	149,900	98,740	63,750	62,440	82,490	111,400	140,000	145,700	199,300	208,300	197,200	176,900
9	148,500	96,730	63,890	62,640	83,590	112,200	140,800	148,100	200,300	208,000	196,800	175,600
10	147,100	95,430	64,810	63,280	84,610	112,900	141,500	150,200	201,300	207,700	196,400	174,400
11	145,600	96,150	65,950	64,420	85,570	113,500	142,100	152,000	202,200	207,400	196,000	173,400
12	144,300	97,160	69,470	64,520	86,410	114,000	142,800	153,400	203,000	207,200	195,600	171,900
13	143,000	96,830	73,810	66,540	87,420	114,500	143,500	154,600	203,900	206,900	195,200	170,600
14	141,500	98,920	76,470	68,160	88,250	114,900	144,200	155,800	204,600	206,500	194,800	169,200
15	140,000	102,400	74,750	69,400	89,170	115,400	144,800	157,300	205,400	206,200	194,300	167,800
16	138,500	104,800	71,140	70,420	90,170	116,200	145,400	159,700	206,200	205,900	193,900	166,500
17	137,100	105,500	68,560	70,710	92,140	117,200	145,900	163,000	207,000	205,500	193,500	165,100
18	136,200	105,100	66,260	70,590	94,510	118,300	146,600	166,000	207,700	205,200	193,100	163,700
19	135,300	104,600	65,220	70,000	96,230	119,400	147,200	169,000	208,100	204,700	192,700	162,300
20	134,300	104,700	64,730	69,280	97,580	120,400	147,700	172,100	208,700	204,400	192,300	161,000
21	132,700	104,500	64,470	68,250	98,670	121,700	147,900	175,600	209,300	204,000	191,900	159,600
22	132,000	102,900	63,920	67,270	99,720	123,100	146,500	178,900	209,400	203,700	191,400	158,200
23	130,800	99,930	63,300	65,200	100,700	125,100	145,600	181,900	209,000	203,300	191,000	156,800
24	129,400	94,800	62,510	64,680	101,600	126,900	145,000	183,900	209,400	202,900	190,500	155,400
25	127,700	90,870	61,860	64,040	102,600	128,500	143,700	185,000	209,700	202,600	190,100	154,000
26	126,000	87,190	60,970	65,780	103,400	129,700	142,400	185,600	209,900	202,200	189,700	152,500
27	124,200	83,190	59,950	70,720	104,200	130,800	141,200	186,600	210,100	201,900	189,300	151,000
28	122,100	78,640	58,810	80,270	105,000	131,800	140,000	188,500	210,200	205,500	188,800	149,600
29	119,900	73,700	58,960	87,380	----------	132,700	138,700	189,700	210,300	201,200	188,400	148,200
30	117,800	68,550	59,060	91,570	----------	133,600	138,100	190,600	210,200	200,800	188,000	146,900
31	115,700	----------	59,050	91,720	----------	134,300	----------	191,100	----------	200,400	187,500	----------
Max	161,000	113,500	76,470	91,720	105,000	134,300	147,900	191,100	210,300	210,000	200,000	186,200
Min	115,700	68,550	58,810	59,270	80,240	106,100	135,000	138,700	191,600	200,400	187,500	146,900
(†)	1,600.86	1,538.89	1,524.08	1,571.40	1,588.20	1,621.55	1,625.56	1,675.90	1,691.79	1,683.76	1,672.80	1,634.63
(‡)	-46,900	-47,150	-9,500	+32,670	+13,280	+29,300	+3,800	+53,000	+19,100	-9,800	-12,900	-40,600

Cal yr 1966: Max 214,000 Min 57,190 Ac-ft ‡ +2,260
Wtr yr 1967: Max 210,300 Min 58,810 Ac-ft ‡ -15,700

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1595. South Fork McKenzie River near Rainbow, Oreg.

Location.--Lat 44°08'10", long 122°14'50", in NE¼ sec.31, T.16 S., R.5 E., on right bank 0.2 mile upstream from Cougar Creek, 0.6 mile downstream from Cougar Dam, 2 miles south of Rainbow, and at mile 3.9.

Drainage area.--208 sq mi.

Records available.--October 1947 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,236.42 ft above mean sea level (Bureau of Public Roads bench mark). Oct. 1 to Nov. 4, 1947, staff gage at site 40 ft upstream at datum 0.80 ft higher. Nov. 5, 1947, to Aug. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--20 years, 899 cfs (650,800 acre-ft per year) adjusted for storage.

Extremes.--Maximum discharge during year, 4,220 cfs Dec. 15 (gage height, 4.36 ft); minimum, 40 cfs Jan. 10; minimum daily, 116 cfs Jan. 28.

1947-67: Maximum discharge, 17,600 cfs Dec. 11, 1956 (gage height, 8.66 ft), from rating curve extended above 8,100 cfs by logarithmic plotting; maximum gage height, 8.90 ft Dec. 22, 1955 (backwater from debris); minimum discharge, 17 cfs Nov. 18, 1965; minimum daily, 115 cfs Aug. 18, 1965.

Maximum discharge known, 24,500 cfs Dec. 28, 1945 (gage height, 8.8 ft, from floodmarks, at Corps of Engineers gage at site 40 ft upstream at datum 0.80 ft higher; gage height at present site and datum, about 9.3 ft), computed by Corps of Engineers.

Remarks.--Records excellent. Flow regulated since 1963 by Cougar Reservoir (see sta. no. 1594), usable capacity, 165,000 acre-ft. No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	927	1,220	2,700	516	2,940	305	295	272	801	396	429	788
2	927	1,220	1,450	516	2,940	295	297	274	819	397	438	780
3	927	1,220	712	528	2,950	301	428	280	415	397	435	780
4	918	1,210	698	516	2,720	304	297	280	410	400	436	780
5	918	1,210	733	516	1,080	291	300	284	408	399	437	788
6	918	1,200	820	531	885	295	299	288	295	398	437	780
7	926	1,200	884	528	458	298	296	291	304	398	436	788
8	859	1,190	788	531	245	303	299	296	305	398	433	788
9	864	1,190	656	533	252	293	299	293	304	399	429	768
10	850	1,190	954	382	264	296	292	293	308	399	426	796
11	860	1,190	1,120	393	268	298	292	295	300	390	428	804
12	862	1,190	1,160	993	271	302	292	306	301	384	424	804
13	867	1,190	1,190	1,090	262	346	290	295	301	384	420	804
14	860	1,200	1,520	1,090	258	295	295	304	300	394	420	812
15	867	1,210	2,890	1,100	263	292	296	305	299	401	414	812
16	863	1,210	3,740	1,110	266	295	292	314	300	402	414	804
17	867	1,160	2,720	1,120	275	297	292	322	300	410	411	804
18	623	1,190	2,360	1,130	288	277	298	294	300	413	410	812
19	625	1,180	1,610	1,320	289	279	289	278	443	444	410	812
20	896	1,180	1,230	1,880	300	282	292	291	300	404	410	820
21	1,020	1,180	1,050	1,880	295	286	477	302	300	408	408	820
22	1,110	1,830	1,040	1,890	300	330	1,180	302	552	409	411	812
23	1,100	2,950	1,050	1,610	306	299	949	296	695	412	408	820
24	1,100	2,940	1,040	1,070	294	277	827	469	295	413	407	812
25	1,090	2,940	1,050	1,070	304	278	1,180	725	296	414	409	820
26	1,080	2,940	1,050	838	306	286	1,190	816	294	408	407	828
27	1,150	2,960	1,060	548	296	287	1,170	610	296	410	409	836
28	1,220	3,220	1,070	116	300	290	1,170	300	296	415	410	836
29	1,220	3,500	552	119	------	296	1,160	680	344	428	411	836
30	1,230	3,500	516	616	------	301	822	818	396	429	408	836
31	1,220	------	516	2,020	------	293	------	819	------	430	419	------
TOTAL	29,764	51,900	39,929	28,100	19,875	9,167	16,145	11,992	11,277	12,583	13,006	24,200
MEAN	960	1,730	1,288	906	710	296	538	387	376	406	420	807
MAX	1,230	3,500	3,740	2,020	2,950	346	1,190	819	819	444	438	836
MIN	623	1,160	516	116	245	277	289	272	294	384	407	780
AC-FT	59,040	102,900	79,200	55,740	39,420	18,180	32,020	23,790	22,370	24,960	25,800	48,000

Adjusted for change in contents of Cougar Reservoir

MEAN	197	937	1,134	1,438	948	772	602	1,249	697	249	210	124
CFSM	0.947	4.50	5.45	6.91	4.56	3.71	2.89	6.00	3.35	1.19	1.01	0.596
IN.	1.09	5.03	6.28	7.97	4.75	4.28	3.23	6.92	3.74	1.37	1.16	0.67
AC-FT	12,140	55,750	69,700	88,410	52,700	47,480	35,820	76,790	41,470	15,160	12,900	7,400

Observed

CAL YR 1966: TOTAL 262,913 MEAN 720 MAX 5,020 MIN 204 AC-FT 521,500
WAT YR 1967: TOTAL 267,938 MEAN 734 MAX 3,740 MIN 116 AC-FT 531,400

Adjusted

CAL YR 1966: MEAN 724 CFSM 3.48 IN. 47.22 AC-FT 523,800
WAT YR 1967: MEAN 712 CFSM 3.42 IN. 46.49 AC-FT 515,700

14-1611. Blue River below Tidbits Creek, near Blue River, Oreg.

Location.--Lat 44°13'05", long 122°15'50", in SE¼NE¼ sec.36, T.15 S., R.4 E., on left bank 0.2 mile downstream from Tidbits Creek, 5.5 miles northeast of Blue River, and at mile 8.5.

Drainage area.--45.8 sq mi.

Records available.--September 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,386.90 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to July 13, 1967, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 2,470 cfs Jan. 28 (gage height, 7.27 ft); minimum, 9.3 cfs Oct. 7, 8.

1963-67: Maximum discharge, 12,400 cfs Dec. 22, 1964 (gage height 15.32 ft, from floodmarks), from rating curve extended above 2,800 cfs on basis of slope-area measurement of peak flow; minimum, 8.2 cfs Sept. 28, 29, Oct. 2-4, 1965.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	31	295	241	506	325	170	136	156	38	18	11
2	12	30	262	222	430	310	175	138	160	37	18	11
3	11	26	232	500	367	256	192	160	149	36	17	11
4	9.6	26	350	600	339	218	225	198	149	34	17	11
5	9.6	30	388	412	319	198	208	222	149	32	16	11
6	9.6	52	388	325	286	185	192	268	138	31	16	11
7	9.3	36	353	259	253	182	192	328	122	31	16	11
8	9.3	35	265	220	241	175	210	412	113	31	16	11
9	10	41	299	210	232	192	192	450	102	30	15	11
10	10	165	1,050	222	225	185	180	360	95	30	15	13
11	9.6	949	940	409	210	156	165	277	87	30	15	49
12	16	980	1,540	402	205	140	160	262	84	29	15	24
13	25	425	1,840	913	210	136	185	235	83	28	14	16
14	14	1,470	1,210	820	198	130	180	247	83	26	14	14
15	13	1,450	760	710	185	126	162	310	84	26	14	13
16	12	1,000	610	610	185	205	156	416	84	25	14	12
17	12	610	520	450	430	295	147	470	83	24	13	12
18	11	388	450	356	610	364	147	412	77	24	13	12
19	11	346	402	386	395	304	140	374	71	24	13	12
20	117	450	395	802	295	339	138	395	68	23	12	12
21	88	353	346	520	256	392	138	395	69	23	12	12
22	490	277	289	370	232	430	136	364	70	22	12	11
23	272	259	250	298	232	560	138	307	60	22	12	11
24	137	198	250	250	238	450	147	241	58	21	12	11
25	90	235	274	225	238	364	160	190	52	21	12	11
26	74	307	228	606	230	295	172	172	49	20	12	11
27	70	235	202	1,660	220	250	182	175	47	20	12	11
28	53	210	182	2,110	250	228	160	180	46	19	12	11
29	43	185	200	1,470	------	208	149	192	44	19	12	12
30	37	195	198	946	------	185	138	200	40	19	12	26
31	34	------	185	675	------	178	------	175	------	18	12	------
TOTAL	1,730.0	10,994	15,153	18,199	8,017	7,961	5,036	8,661	2,672	813	433	415
MEAN	55.8	366	489	587	286	257	168	279	89.1	26.2	14.0	13.8
MAX	490	1,470	1,840	2,110	610	560	225	470	160	38	18	49
MIN	9.3	26	182	210	185	126	136	136	40	18	12	11
CFSM	1.22	8.00	10.7	12.8	6.25	5.61	3.67	6.10	1.94	.57	.30	.30
IN.	1.40	8.93	12.3	14.8	6.51	6.46	4.09	7.03	2.17	.66	.35	.34
AC-FT	3,430	21,810	30,060	36,100	15,900	15,790	9,990	17,180	5,300	1,610	859	823

CAL YR 1966: TOTAL 98,374.0 MEAN 270 MAX 2,210 MIN 9.3 CFSM 5.88 IN 79.88 AC-FT 195,100
WAT YR 1967: TOTAL 80,084.0 MEAN 219 MAX 2,110 MIN 9.3 CFSM 4.79 IN 65.03 AC-FT 158,800

Peak discharge (base, 2,000 cfs).--Dec. 13 (1030 hrs) 2,000 cfs (6.78 ft); Jan. 28 (0800 hrs) 2,470 cfs (7.27 ft).

14-1615. Lookout Creek near Blue River, Oreg.

Location.--Lat 44°12'35", long 122°15'20", in T.15 or 16 S., R.5 E., (unsurveyed), on left bank 6 miles northeast of town of Blue River, and at mile 0.5.

Drainage area.--24.1 sq mi.

Records available.--August 1949 to September 1955, September 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,377.53 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Aug. 25, 1949, to Sept. 30, 1955, Sept. 1, 1963, to Mar. 4, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 132 cfs (95,560 acre-ft per year).

Extremes.--Maximum discharge during year, 1,560 cfs Jan. 28 (gage height, 5.60 ft); minimum, 6.6 cfs Oct. 5-7, 9-11.

1949-55, 1963-67: Maximum discharge, 6,660 cfs Dec. 22, 1964 (gage height, 8.88 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow; minimum, 6.4 cfs Nov. 25-30, 1952.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.2	19	113	98	304	133	92	77	100	24	14	10
2	7.8	18	108	90	257	130	87	75	102	23	13	10
3	7.8	17	98	173	222	119	84	90	95	22	13	10
4	7.2	16	123	222	190	108	87	120	97	21	13	10
5	7.2	18	140	185	175	100	84	130	97	21	13	10
6	6.6	25	155	158	154	90	82	160	87	21	13	10
7	7.2	21	158	135	139	87	80	200	77	21	13	10
8	7.2	20	130	120	130	82	82	240	71	20	12	9.8
9	7.2	21	120	113	122	90	77	280	62	20	12	9.8
10	6.6	49	350	113	113	87	84	220	58	19	12	11
11	6.6	299	385	170	108	80	77	180	54	19	12	23
12	13	415	638	191	102	77	75	150	54	18	12	14
13	16	197	948	490	110	75	85	140	54	18	12	11
14	11	474	687	415	108	71	82	140	53	18	11	11
15	9.1	673	400	345	105	73	75	190	51	18	11	10
16	8.4	514	286	290	122	102	77	260	49	17	11	10
17	8.4	313	229	222	260	130	84	280	46	17	11	9.8
18	7.8	206	197	182	336	166	87	240	41	17	11	10
19	7.8	182	173	185	239	148	84	220	38	17	11	10
20	53	209	164	335	190	154	84	240	35	16	11	9.8
21	38	176	148	262	160	178	77	240	39	16	11	9.8
22	173	145	128	197	142	190	77	220	41	16	11	9.4
23	110	120	115	161	133	222	77	180	34	15	11	9.4
24	66	103	105	140	130	197	77	150	31	15	11	9.0
25	44	108	113	128	119	172	84	120	28	15	11	9.0
26	39	115	100	317	110	151	87	110	27	15	11	9.0
27	36	100	80	828	105	133	90	110	26	15	11	8.7
28	29	93	83	1,220	108	119	87	110	25	14	10	8.7
29	25	83	83	814	------	110	84	120	25	14	10	9.8
30	23	85	85	540	------	102	80	130	24	14	10	18
31	21	------	76	390	------	97	------	100	------	14	10	------
TOTAL	817.1	4,834	6,718	9,229	4,493	3,773	2,469	5,222	1,621	550	358	320.0
MEAN	26.4	161	217	298	160	122	82.3	168	54.0	17.7	11.5	10.7
MAX	173	673	948	1,220	336	222	92	280	102	24	14	23
MIN	6.6	16	76	90	102	71	75	75	24	14	10	8.7
CFSM	1.09	6.69	8.99	12.4	6.66	5.05	3.41	6.99	2.24	.74	.48	.44
IN.	1.26	7.46	10.4	14.2	6.93	5.82	3.81	8.06	2.50	.85	.55	.49
AC-FT	1,620	9,590	13,320	18,310	8,910	7,480	4,900	10,360	3,220	1,090	710	635

CAL YR 1966: TOTAL 40,991.2 MEAN 112 MAX 965 MIN 6.6 CFSM 4.66 IN 63.26 AC-FT 81,300
WAT YR 1967: TOTAL 40,404.1 MEAN 111 MAX 1,220 MIN 6.6 CFSM 4.59 IN 62.35 AC-FT 80,140

Peak discharge (base, 1,000 cfs).--Dec. 13 (2200 hrs) 1,110 cfs (5.63 ft); Jan. 28 (0830 hrs) 1,560 cfs (5.60 ft).

14-1622. Blue River at Blue River, Oreg.

Location.--Lat 44°09'45", long 122°19'55", in NW¼SE¼ sec.21, T.16 S., R.4 E., (unsurveyed), on right bank 0.3 mile upstream from Simmonds Creek, 0.7 mile north of town of Blue River, and at mile 0.9.

Drainage area.--87.7 sq mi.

Records available.--January 1966 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,056.53 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). January 20 to August 24, 1966, staff gage at present site and at datum 0.80 ft higher. August 25 to November 17, 1966, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 5,340 cfs Jan. 28 (gage height, 8.19 ft); minimum, 13 cfs July 3, Sept. 5, 25; minimum daily discharge, 18 cfs Sept. 6.

1966-67: Maximum discharge, 5,340 cfs Jan. 28, 1967 (gage height, 8.19 ft); minimum discharge, 7.5 cfs Sept. 28, 1966; minimum daily discharge, 18 cfs Sept. 6, 1967.

Remarks.--Records excellent. Some regulation of peak flows as result of by-pass channel at Blue River Dam. No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	61	448	444	940	553	334	239	273	70	33	22
2	25	57	425	398	806	542	327	241	284	67	32	24
3	23	55	372	865	691	455	338	270	262	56	31	23
4	20	47	528	1,080	624	400	403	324	262	59	32	23
5	22	55	664	777	577	356	377	365	258	56	32	19
6	22	96	696	607	507	331	345	433	241	57	30	18
7	19	68	722	492	456	322	331	536	213	57	31	25
8	22	64	534	417	428	306	358	648	195	57	32	22
9	23	70	473	391	410	356	321	725	178	54	29	22
10	20	310	1,720	423	390	347	308	604	165	50	23	25
11	20	1,520	1,590	765	370	299	287	496	154	50	22	71
12	33	1,480	2,550	759	350	275	275	457	146	51	29	57
13	61	656	3,360	1,860	372	266	316	412	147	49	27	33
14	36	2,140	2,540	1,540	351	255	312	418	144	48	23	28
15	31	2,820	1,410	1,220	356	249	282	510	144	48	24	26
16	29	1,930	1,050	1,080	404	402	284	685	142	46	24	27
17	27	1,070	880	803	1,030	548	276	786	140	42	25	26
18	23	677	747	628	1,320	699	296	701	130	45	26	22
19	24	575	665	617	799	585	289	634	118	41	28	24
20	202	741	635	1,400	602	581	277	657	115	41	28	28
21	182	588	562	1,020	512	659	264	670	117	39	24	23
22	925	469	473	705	458	691	258	622	122	41	26	22
23	601	382	414	555	447	884	258	534	107	39	25	24
24	284	325	389	473	453	776	264	427	97	36	25	23
25	169	355	487	423	444	643	286	351	91	35	26	20
26	129	504	418	1,310	416	542	311	307	84	37	25	22
27	127	388	355	3,220	383	456	324	294	80	37	25	21
28	98	337	316	4,400	423	413	292	308	77	35	19	22
29	84	298	319	2,770	------	381	270	332	73	37	23	24
30	76	307	343	1,770	------	359	250	339	71	34	24	47
31	68	------	304	1,240	------	337	------	293	------	32	22	------
TOTAL	3,449	18,445	26,389	34,452	15,319	14,268	9,113	14,618	4,630	1,446	825	813
MEAN	111	615	851	1,111	547	460	304	472	154	46.6	26.6	27.1
MAX	925	2,820	3,360	4,400	1,320	884	403	786	284	70	33	71
MIN	19	47	304	391	350	249	250	239	71	32	19	18
CFSM	1.27	7.01	9.71	12.7	6.24	5.25	3.46	5.38	1.76	.53	.30	.31
IN.	1.46	7.82	11.2	14.6	6.50	6.05	3.86	6.20	1.96	.61	.35	.34
AC-FT	6,840	36,590	52,340	68,330	30,380	28,300	18,080	28,990	9,180	2,870	1,640	1,610

CAL YR 1966: TOTAL	MEAN	MAX	MIN	CFSM	IN	AC-FT
WAT YR 1967: TOTAL 143,767	MEAN 394	MAX 4,400	MIN 18	CFSM 4.49	IN 60.97	AC-FT 285,200

14-1625. McKenzie River near Vida, Oreg.

Location (revised).--Lat 44°07'30", long 122°28'10", in NE¼NE¼ sec.5, T.17 S., R.3 E., on left bank 0.4 mile downstream from Mason Creek, 5.4 miles east of Vida, and at mile 47.7.

Drainage area.--930 sq mi at cableway 0.4 mile downstream, where all discharge measurements are made.

Records available.--July 1910 to March 1911 (published as "at Martins Rapids, near Vida"), September 1924 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 855.56 ft above mean sea level, datum of 1929. July 1, 1910, to Mar. 31, 1911, staff gage at site 3 miles downstream at different datum. Sept. 1, 1924, to Nov. 16, 1928, staff gage at site 20 ft upstream at same datum. Nov. 17, 1928, to May 27, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--43 years (1924-67), 3,994 cfs (2,892,000 acre-ft per year).

Extremes.--Maximum discharge during year, 16,000 cfs Jan. 28 (gage height, 6.40 ft); minimum, 1,400 cfs Oct. 18, 19.

1910-11, 1924-67: Maximum discharge, 64,400 cfs Dec. 28, 1945 (gage height, 17.70 ft), from rating curve extended above 32,000 cfs by logarithmic plotting; minimum, 1,260 cfs Nov. 7, 1930, Sept. 17, Oct. 4, 8, 9, 1931.

Flood in January 1923 reached a stage of 17.2 ft, from floodmarks (discharge, 62,000 cfs).

Remarks.--Records excellent. Flow regulated since 1963 by Smith River Reservoir (see sta. no. 1587.95) and Cougar Reservoir (see sta. no. 1594). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,210	2,680	6,080	3,390	8,590	3,650	3,080	2,740	4,240	2,420	1,980	2,140
2	2,230	2,660	4,640	3,260	8,180	3,690	2,950	2,700	4,110	2,400	1,930	2,200
3	2,220	2,630	3,630	4,010	7,400	3,510	3,110	2,760	3,690	2,380	1,900	2,200
4	2,200	2,570	4,110	5,010	6,920	3,280	3,280	2,900	3,610	2,370	1,910	2,200
5	2,190	2,580	4,770	4,480	5,520	3,010	3,260	2,970	3,670	2,310	1,930	2,200
6	2,170	2,720	4,790	4,090	4,790	2,950	3,200	3,060	3,490	2,310	1,880	2,180
7	2,210	2,740	5,010	3,870	4,350	2,950	3,100	3,310	3,280	2,430	1,860	2,180
8	2,150	2,620	4,480	3,670	3,830	2,950	2,970	3,750	3,200	2,520	1,900	2,170
9	2,140	2,620	4,070	3,450	3,650	3,150	2,860	4,240	3,010	2,400	1,880	2,180
10	2,120	3,300	6,980	3,390	3,490	3,190	2,970	4,130	2,740	2,370	1,830	2,220
11	2,130	5,910	7,400	4,350	3,310	3,110	2,920	3,750	2,640	2,280	1,850	2,570
12	2,190	6,890	9,850	4,940	3,240	2,950	2,790	3,530	2,720	2,260	1,820	2,350
13	2,270	4,810	11,600	7,930	3,470	2,810	3,130	3,370	2,810	2,250	1,790	2,260
14	2,190	8,080	10,900	7,480	3,430	2,840	2,900	3,390	2,760	2,230	1,740	2,220
15	2,180	10,700	9,220	6,700	3,350	2,770	3,020	3,690	2,830	2,200	1,830	2,250
16	2,150	8,830	8,830	6,400	3,630	3,200	3,100	4,220	2,790	2,140	1,860	2,250
17	2,140	6,400	7,480	5,600	5,520	3,630	2,970	4,970	2,840	2,220	1,830	2,260
18	1,870	5,080	6,730	5,100	6,320	4,010	3,020	4,790	2,830	2,250	1,770	2,250
19	1,870	4,830	5,750	5,140	4,830	3,750	2,860	4,570	2,900	2,170	1,800	2,230
20	2,700	5,380	5,410	7,820	4,170	3,730	2,860	4,680	2,770	2,040	1,820	2,200
21	2,860	5,050	4,940	7,450	3,830	3,930	2,880	4,970	2,760	2,090	1,800	2,150
22	4,170	5,030	4,610	6,480	3,590	4,030	3,690	4,940	2,900	2,090	1,790	2,140
23	3,680	5,800	4,440	5,680	3,550	4,610	3,550	4,680	3,150	2,020	1,770	2,120
24	3,090	5,550	4,200	4,860	3,490	4,420	3,240	4,370	2,550	2,020	1,770	2,120
25	2,820	5,600	4,440	4,660	3,430	3,930	3,770	4,350	2,500	2,040	1,760	2,120
26	2,750	6,150	4,200	6,700	3,220	3,690	3,930	4,310	2,450	2,040	1,770	2,170
27	2,840	5,680	4,050	10,700	3,150	3,430	4,010	4,090	2,430	1,990	1,820	2,200
28	2,850	5,800	4,010	14,000	3,280	3,450	3,950	3,790	2,400	1,990	1,740	2,180
29	2,770	5,780	3,430	11,200	------	3,370	3,890	4,370	2,380	1,960	1,760	2,200
30	2,730	5,800	3,240	8,950	------	3,450	3,470	4,480	2,430	1,960	1,730	2,330
31	2,700	------	3,110	8,800	------	3,240	------	4,260	------	1,980	1,730	------
TOTAL	76,790	150,270	176,400	189,560	125,530	106,680	96,730	122,130	88,880	68,130	56,550	66,440
MEAN	2,477	5,009	5,690	6,115	4,483	3,441	3,224	3,940	2,963	2,198	1,824	2,215
MAX	4,170	10,700	11,600	14,000	8,590	4,610	4,010	4,970	4,240	2,520	1,980	2,570
MIN	1,870	2,570	3,110	3,260	3,150	2,770	2,790	2,700	2,380	1,960	1,730	2,120
AC-FT	152,300	298,100	349,900	376,000	249,000	211,600	191,900	242,200	176,300	135,100	112,200	131,800

CAL YR 1966: TOTAL 1,348,980 MEAN 3,696 MAX 15,300 MIN 1,790 AC-FT 2,676,000
WAT YR 1967: TOTAL 1,324,090 MEAN 3,628 MAX 14,000 MIN 1,730 AC-FT 2,626,000

Peak discharge (base, 16,000 cfs).--Jan. 28 (1200 hrs) 16,000 cfs (6.40 ft).

14-1630. Gate Creek at Vida, Oreg.

Location.--Lat 44°08'45", long 122°34'15", in SW¼ sec.28, T.16 S., R.2 E., on right bank 300 ft downstream from bridge on U.S. Highway 126, at Vida, and at mile 0.2.

Drainage area.--47.6 sq mi.

Records available.--June 1951 to September 1957, August 1966 to September 1967. Peak discharge only, water years 1958-65.

Gage.--Digital water-stage recorder. Datum of gage is 764.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. June 11, 1951, to Sept. 30, 1957, graphic water-stage recorder, Oct. 1, 1957, to Aug. 1, 1966, crest-stage gage, and Aug. 2, 1966, to June 30, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--7 years (1951-57, 1966-67), 234 cfs (169,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,560 cfs Jan. 28 (gage height, 6.77 ft); minimum, 13 cfs Oct. 6, 7.

1951-65, 1967: Maximum discharge, 7,140 cfs Dec. 22, 1964 (gage height, 12.18 ft, from slope-area measurement of peak flow.

1951-57, 1966-67: Minimum, 12 cfs Nov. 26, 27, 1952.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	29	186	183	496	259	215	178	84	39	24	17
2	17	27	170	183	438	289	210	170	80	38	23	17
3	16	27	145	337	375	253	202	163	74	37	23	17
4	14	26	256	448	322	226	200	156	71	36	23	17
5	14	30	382	340	283	210	195	151	65	35	23	17
6	14	54	462	274	250	195	180	146	65	35	23	16
7	14	41	476	240	223	185	170	142	64	34	23	16
8	15	36	386	213	205	172	163	140	60	34	22	16
9	16	36	358	216	190	195	153	163	60	33	22	16
10	16	207	820	264	178	190	146	158	59	33	22	21
11	16	795	748	452	170	175	140	170	58	32	22	61
12	21	632	860	431	156	170	129	170	58	31	21	33
13	32	322	1,020	1,060	168	168	156	151	56	31	21	22
14	21	1,100	925	770	160	163	158	136	52	30	20	20
15	19	1,300	612	552	170	175	151	129	50	30	20	18
16	18	990	452	470	274	265	163	125	47	29	19	18
17	17	560	364	386	980	292	168	117	47	29	19	19
18	17	350	294	326	915	368	192	108	47	29	19	21
19	17	291	243	298	532	322	200	106	46	28	18	19
20	97	277	228	552	392	283	188	101	46	28	18	18
21	90	222	192	568	337	268	175	94	55	28	18	18
22	239	180	172	434	301	259	178	92	59	27	18	18
23	142	155	158	354	283	271	195	88	54	27	18	17
24	73	135	150	312	274	298	195	84	49	26	18	17
25	46	165	192	270	271	280	220	80	45	26	18	16
26	43	240	170	912	241	250	277	77	44	26	18	16
27	47	180	150	1,240	218	220	283	74	43	26	18	16
28	39	155	135	1,370	215	210	250	78	40	25	17	16
29	35	130	142	985	------	202	220	84	39	25	17	23
30	33	130	150	734	------	205	195	96	38	24	17	36
31	30	------	140	608	------	208	------	92	------	24	17	------
TOTAL	1,242	8,822	11,138	15,782	9,017	7,226	5,667	3,819	1,655	935	619	612
MEAN	40.1	294	359	509	322	233	189	123	55.2	30.2	20.0	20.4
MAX	239	1,300	1,020	1,370	980	368	283	178	84	39	24	61
MIN	14	26	135	183	156	163	129	74	38	24	17	16
CFSM	.84	6.18	7.55	10.7	6.77	4.90	3.97	2.59	1.16	.63	.42	.43
IN.	.97	6.89	8.70	12.3	7.05	5.65	4.43	2.98	1.29	.73	.48	.48
AC-FT	2,460	17,500	22,090	31,300	17,880	14,330	11,240	7,570	3,280	1,850	1,230	1,210

CAL YR 1966: TOTAL	MEAN	MAX	MIN	CFSM	IN	AC-FT
WAT YR 1967: TOTAL 66,534	MEAN 182	MAX 1,370	MIN 14	CFSM 3.83	IN 51.98	AC-FT 132,000

Peak discharge (base, 1,800 cfs).--No peak above base.

14-1650. Mohawk River near Springfield, Oreg.

Location.--Lat 44°05'35", long 122°57'20", near center of sec.17, T.17 S., R.2 W., on left bank 50 ft downstream from bridge, 4 miles northeast of Springfield, and at mile 1.59.

Drainage area.--177 sq mi.

Records available.--September 1935 to September 1952, October 1963 to September 1967. Prior to October 1935 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 442.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 1, 1935 to Sept. 30, 1952, wire-weight gage and Oct. 14, 1963 to July 21, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--21 years 542 cfs (392,400 acre-ft per year).

Extremes.--Maximum daily discharge during year, 4,000 cfs Jan. 28; minimum, 8.2 cfs Sept. 9.

1935-52, 1963-67: Maximum discharge, 13,000 cfs Dec. 22, 1964 (gage height, 22.60 ft); minimum, 8.2 cfs Sept. 9, 1967. Flood of Dec. 22, 1955, reached a stage of 22.9 ft, from floodmark, probably affected by backwater from McKenzie River (discharge, 9,200 cfs).

Remarks.--Records fair. Slight regulation at low flows by log ponds upstream. Many diversions for irrigation above station. Stage affected at times by backwater from McKenzie River. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	37	525	435	1,500	700	579	670	231	68	23	13
2	21	37	532	395	1,400	750	529	615	244	61	23	12
3	20	35	442	510	1,200	650	503	571	200	60	22	13
4	21	34	1,000	1,000	1,100	600	485	532	178	56	21	13
5	20	37	1,870	900	995	509	480	498	165	52	21	11
6	19	56	1,620	800	884	483	454	459	160	49	22	12
7	20	57	2,060	750	800	454	420	433	156	49	23	12
8	24	48	1,850	650	724	433	402	420	149	49	22	12
9	25	45	1,280	600	657	650	384	509	147	48	20	11
10	25	162	1,630	600	613	650	372	506	143	45	18	14
11	24	550	1,600	900	571	600	354	498	141	42	18	30
12	23	770	1,850	1,500	535	550	332	477	138	42	19	49
13	35	410	2,060	2,200	550	550	384	431	136	38	18	26
14	35	1,400	2,080	1,800	550	522	410	399	125	36	16	21
15	31	2,360	1,510	1,500	600	501	386	374	114	36	14	18
16	29	1,600	1,220	1,300	1,500	555	415	356	108	35	13	15
17	28	900	995	1,100	2,400	607	498	345	103	32	14	15
18	27	800	830	900	2,000	905	566	325	98	32	13	21
19	28	650	730	792	1,600	866	594	306	94	34	13	25
20	34	600	718	2,100	1,300	785	558	284	90	33	14	22
21	98	500	642	3,070	1,100	706	519	270	107	32	13	22
22	86	440	580	2,230	900	657	501	262	161	30	14	20
23	90	340	535	1,570	750	675	623	242	134	29	14	18
24	61	320	505	1,240	700	719	553	229	108	28	13	18
25	49	440	592	1,060	650	657	685	222	90	28	12	17
26	48	500	542	1,000	600	631	911	211	85	31	12	17
27	49	400	500	2,600	550	574	1,020	204	83	30	15	16
28	46	340	468	4,000	600	571	932	211	80	27	13	15
29	43	300	450	3,000	------	581	836	231	74	25	12	15
30	39	338	440	2,600	------	602	764	242	72	25	13	44
31	38	------	398	2,000	------	615	------	288	------	23	14	------
TOTAL	1,158	14,506	32,054	45,102	27,329	19,308	16,449	11,620	3,914	1,205	512	567
MEAN	37.4	484	1,034	1,455	976	623	548	375	130	38.9	16.5	18.9
MAX	98	2,360	2,080	4,000	2,400	905	1,020	670	244	68	23	49
MIN	19	34	398	395	535	433	332	204	72	23	12	11
CFSM	.21	2.73	5.84	8.22	5.51	3.52	3.10	2.12	.74	.22	.09	.11
IN.	.24	3.05	6.73	9.48	5.74	4.06	3.46	2.44	.82	.25	.11	.12
AC-FT	2,300	28,770	63,580	89,460	54,210	38,300	32,630	23,050	7,760	2,390	1,020	1,120

CAL YR 1966: TOTAL 178,352.6 MEAN 489 MAX 7,150 MIN 9.6 CFSM 2.76 IN 37.47 AC-FT 353,800
WAT YR 1967: TOTAL 173,724 MEAN 476 MAX 4,000 MIN 11 CFSM 2.69 IN 36.50 AC-FT 344,600

Peak discharge (base, 3,500 cfs).--Jan. 28 (time and discharge unknown).

Note.--No gage-height record Jan. 26 to Feb. 4.

14-1655. McKenzie River near Coburg, Oreg.

Location.--Lat 44°06'45", long 123°02'45", in NE¼NE¼ sec.9, T.17 S., R.3 W., on left bank at downstream side of Armitage Bridge, 2 miles southeast of Coburg, and at mile 7.1.

Drainage area.--1,337 sq mi.

Records available.--October 1944 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 392.32 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 24, 1944, wire-weight gage at same site at datum 4.00 ft higher. Nov. 25, 1944, to Feb. 28, 1965, graphic water-stage recorder at same site at datum 4.00 ft higher. Mar. 1, 1965, to Oct. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--23 years, 5,906 cfs (4,276,000 acre-ft per year).

Extremes.--Maximum discharge during year, 29,800 cfs Jan. 28 (gage height, 10.02 ft); minimum, 1,490 cfs Sept. 14.

1944-67: Maximum discharge, 88,200 cfs Dec. 29, 1945 (gage height, 21.36 ft), from rating curve extended above 59,000 cfs; minimum, 1,080 cfs Aug. 19, 1966.

Flood stage of 22.2 ft was reached in December 1861, 21.8 ft in February 1890, and 20.1 ft in January 1943 (information from Corps of Engineers), all at present datum.

Remarks.--Records good except those for period of shifting control, which are fair. Flow regulated since 1963 by Smith River Reservoir (see sta. no. 1587.95) and Cougar Reservoir (see sta. no. 1594). Slight diurnal fluctuation caused by logponds and powerplants upstream. Water supply for city of Eugene is diverted 10 miles upstream; small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,390	2,930	5,840	4,400	14,400	4,930	4,480	4,190	4,310	2,540	2,080	1,930
2	2,410	2,860	4,440	4,440	13,300	5,250	4,290	3,940	4,350	2,530	2,060	2,110
3	2,330	2,860	3,330	4,750	11,800	5,030	4,170	3,940	4,040	2,500	2,020	2,140
4	2,340	2,790	3,100	6,980	10,700	4,750	4,350	3,940	3,870	2,400	2,020	2,200
5	2,360	2,800	2,860	7,010	9,320	4,430	4,310	3,960	3,830	2,460	2,060	2,290
6	2,350	2,990	3,080	6,220	7,370	4,210	4,250	3,920	3,790	2,370	2,030	2,110
7	2,460	3,000	3,080	5,920	6,670	4,170	4,110	4,000	3,630	2,400	2,020	2,290
8	2,360	2,970	6,520	5,530	5,640	4,090	4,040	4,150	3,630	2,450	2,000	2,140
9	2,310	2,790	7,380	5,210	5,280	4,190	3,940	4,830	3,500	2,460	1,960	2,160
10	2,260	3,520	10,700	4,990	4,980	4,680	3,870	5,050	3,300	2,460	1,930	2,220
11	2,300	6,340	13,000	5,930	4,700	4,500	3,920	4,700	3,130	2,400	1,900	2,530
12	2,330	8,980	15,800	6,640	4,550	4,330	3,700	4,380	3,080	2,300	1,840	2,750
13	2,490	6,540	19,000	11,700	4,650	4,190	3,920	4,150	3,180	2,290	1,810	2,390
14	2,380	7,470	19,800	13,100	4,780	4,130	4,020	4,090	3,060	2,300	1,930	2,280
15	2,370	6,840	15,300	10,300	4,730	4,060	3,880	4,150	3,080	2,230	1,810	2,260
16	2,360	6,020	14,100	9,590	4,950	4,210	3,980	4,380	3,040	2,170	1,880	2,200
17	2,330	4,880	11,100	8,110	10,100	4,980	4,130	5,030	2,990	2,300	1,840	2,290
18	2,280	4,200	9,230	7,100	13,000	5,970	4,110	5,100	3,030	2,260	1,850	2,310
19	2,030	4,750	8,020	6,630	9,600	5,940	4,210	4,830	2,980	2,260	1,750	2,280
20	2,390	5,570	7,150	12,200	7,600	5,460	4,070	4,780	2,910	2,150	1,750	2,280
21	3,380	4,410	6,490	15,800	6,490	5,460	3,980	4,950	2,910	2,110	1,940	2,230
22	3,890	3,890	6,070	12,500	5,760	5,430	4,290	5,030	3,030	2,150	1,850	2,220
23	4,380	3,300	5,800	9,920	5,430	5,880	4,800	4,850	3,280	2,120	1,850	2,220
24	3,510	3,090	5,500	7,840	5,220	6,280	4,290	4,550	2,910	2,080	1,850	2,220
25	3,160	3,130	5,730	7,020	5,080	5,610	4,780	4,480	2,740	2,080	1,900	2,200
26	2,960	3,340	5,610	9,190	4,830	5,190	5,460	4,330	2,670	2,140	1,820	2,220
27	3,080	3,880	5,280	19,900	4,550	4,780	5,670	4,330	2,660	2,110	1,870	2,250
28	3,100	3,870	5,170	25,600	4,480	4,730	5,760	4,040	2,560	2,080	2,020	2,250
29	3,020	5,150	4,790	22,600	------	4,680	5,370	4,270	2,610	2,080	1,880	2,280
30	2,970	6,320	4,480	16,800	------	4,750	4,980	4,650	2,590	2,050	1,880	2,610
31	3,000	------	4,210	15,100	------	4,630	------	4,630	------	2,060	1,800	------
TOTAL	83,280	131,480	241,960	309,020	199,960	150,920	131,130	137,620	96,690	70,290	59,200	67,860
MEAN	2,686	4,383	7,805	9,968	7,141	4,868	4,371	4,439	3,223	2,267	1,910	2,262
MAX	4,380	8,980	19,800	25,600	14,400	6,280	5,760	5,100	4,350	2,540	2,080	2,750
MIN	2,030	2,790	2,860	4,400	4,480	4,060	3,700	3,920	2,560	2,050	1,750	1,930
CFSM	2.01	3.28	5.84	7.46	5.34	3.64	3.27	3.32	2.41	1.70	1.43	1.69
IN.	2.32	3.66	6.73	8.60	5.56	4.20	3.65	3.83	2.69	1.96	1.65	1.89
AC-FT	165,200	260,800	479,900	612,900	396,600	299,300	260,100	273,000	191,800	139,400	117,400	134,600

CAL YR 1966: TOTAL 1,747,310 MEAN 4,787 MAX 36,000 MIN 1,720 CFSM 3.58 IN 48.60 AC-FT 3,466,000
WAT YR 1967: TOTAL 1,679,410 MEAN 4,601 MAX 25,600 MIN 1,750 CFSM 3.44 IN 46.71 AC-FT 3,331,000

Peak discharge (base, 31,000 cfs).--No peak above base.

Note.--Shifting-control method used June 21 to Aug. 30.

14-1660. Willamette River at Harrisburg, Oreg.

Location.--Lat 44°16'05", long 123°10'20", in SW¼NE¼ sec.16, T.15 S., R.4 W., on right bank 10 ft downstream from bridge on U.S. Highway 99 at Harrisburg and at mile 161.2.

Drainage area.--3,420 sq mi, approximately.

Records available.--October 1944 to September 1967. Gage-height records collected at same site in 1927-28, 1931, 1934, are contained in reports of U.S. Weather Bureau.

Gage.--Digital water-stage recorder. Datum of gage is 290.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 1 to Nov. 14, 1944, wire-weight gage on bridge 10 ft upstream at same datum. Nov. 15, 1944, to Aug. 19, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--23 years, 12,500 cfs (9,050,000 acre-ft per year).

Extremes.--Maximum discharge during year, 48,800 cfs Jan. 28 (gage height, 9.20 ft); minimum, 3,820 cfs July 12.

1944-67: Maximum discharge, 210,000 cfs Dec. 29, 1945 (gage height, 19.69 ft), from rating curve extended above 115,000 cfs; minimum, 1,990 cfs Oct. 30, 1944.

Flood stage of 20.5 ft was reached in December 1861, and 20.1 ft in February 1890 (information from Corps of Engineers). Flood of Jan. 1, 1943, reached a stage of 19.1 ft, from U.S. Weather Bureau records.

Remarks.--Records excellent. Flow regulated by 7 reservoirs above station (see elsewhere in this report). Many small diversions above station for irrigation. Records of water temperatures at site 600 ft downstream for water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,730	6,890	19,200	8,480	43,200	8,240	7,970	8,850	8,720	4,770	4,830	5,030
2	4,730	6,470	17,400	8,930	41,100	8,770	7,610	7,950	8,160	4,760	4,820	5,470
3	4,690	5,510	13,400	8,960	36,100	9,230	7,290	7,140	7,320	4,810	4,740	5,430
4	4,970	4,560	15,200	12,900	28,400	8,660	7,410	7,000	6,940	4,720	4,730	5,540
5	5,250	4,470	27,800	16,000	23,500	7,810	7,410	6,990	6,500	4,930	4,770	5,450
6	5,450	5,340	26,900	14,800	20,000	7,390	7,290	6,890	6,340	4,860	4,750	5,700
7	5,480	6,290	28,900	14,300	17,400	7,270	7,010	6,900	6,080	4,820	4,740	5,700
8	5,560	7,250	30,300	13,600	14,600	7,050	6,890	7,030	5,940	4,920	4,710	5,590
9	5,630	7,360	23,400	12,800	10,100	7,160	6,970	8,050	5,640	5,040	4,730	5,500
10	5,700	8,110	26,100	11,900	8,250	8,780	6,340	9,120	5,240	5,070	4,750	5,360
11	5,820	12,100	29,200	13,600	7,840	8,350	6,200	8,870	4,930	4,890	4,750	6,070
12	5,840	20,600	33,100	16,400	7,510	7,800	5,870	8,460	4,890	4,600	4,720	6,610
13	5,960	18,000	32,600	22,100	7,510	7,650	6,110	8,320	5,060	4,870	4,700	5,940
14	5,910	20,400	39,100	28,200	8,000	8,990	6,790	8,180	4,950	4,810	4,790	5,780
15	5,870	37,700	39,000	24,100	7,910	7,150	6,360	8,020	4,970	4,930	4,640	5,810
16	5,750	40,400	37,700	21,800	8,360	7,230	6,500	7,720	4,900	4,800	4,620	5,040
17	5,610	32,700	29,900	19,200	13,300	8,700	7,140	8,380	4,820	4,920	4,600	5,730
18	5,570	32,300	25,400	17,200	22,500	11,000	7,200	8,410	4,890	4,920	4,670	5,890
19	5,220	29,600	22,900	16,000	19,700	12,400	7,560	8,070	4,810	4,860	4,530	5,780
20	5,380	31,300	20,700	26,300	16,000	11,600	7,060	8,040	4,760	4,870	4,540	5,800
21	6,550	28,100	16,900	41,200	13,000	11,200	6,800	8,200	4,750	4,770	4,600	5,660
22	7,330	24,400	15,400	38,400	10,900	10,800	6,940	8,350	5,150	4,800	4,700	5,570
23	8,920	23,400	13,200	31,500	9,650	11,300	7,970	8,120	6,190	4,790	4,670	5,690
24	7,790	22,600	12,000	23,700	9,200	12,100	7,270	8,770	6,110	4,690	4,680	5,660
25	7,470	22,300	12,000	23,000	9,080	11,300	7,770	9,390	5,730	4,700	4,700	5,630
26	7,760	24,700	12,100	22,200	8,830	10,700	9,260	10,100	5,540	4,740	4,640	5,720
27	7,770	25,800	11,400	37,200	8,250	9,100	10,900	9,620	4,490	4,920	4,660	5,770
28	7,920	24,700	10,200	40,800	7,840	8,280	11,300	8,280	4,510	4,780	4,790	5,740
29	7,680	21,200	9,400	38,000	------	8,250	10,800	7,750	4,890	4,770	4,680	5,790
30	7,010	19,200	8,840	27,200	------	8,340	9,940	8,100	4,840	4,830	4,710	6,170
31	7,150	------	8,470	37,400	------	8,280	------	8,740	------	4,820	4,830	------
TOTAL	192,470	573,750	668,110	688,170	438,030	280,880	227,930	253,810	168,060	149,780	145,790	171,220
MEAN	6,209	19,130	21,550	22,200	15,640	9,061	7,598	8,187	5,602	4,832	4,703	5,707
MAX	8,920	40,400	39,100	41,200	43,200	12,400	11,300	10,100	8,720	5,070	4,830	6,610
MIN	4,690	4,470	8,470	8,480	7,510	7,050	5,870	6,890	4,490	4,600	4,530	5,030
AC-FT	381,800	1,138M	1,325M	1,365M	868,800	557,100	452,100	503,400	333,300	297,100	289,200	339,600

CAL YR 1966: TOTAL 4,081,173 MEAN 11,180 MAX 59,500 MIN 3,820 AC-FT 8,095,000
WAT YR 1967: TOTAL 3,958,000 MEAN 10,840 MAX 43,200 MIN 4,470 AC-FT 7,851,000

14-1665. Long Tom River near Noti, Oreg.

Location.--Lat 44°03'00", long 123°25'30", in sec.33, T.17 S., R.6 W., on left bank 0.2 mile upstream from Southern Pacific Railroad bridge, 0.8 mile downstream from Noti Creek, 1.3 miles southeast of Noti, and at mile 37.4.

Drainage area.--89.3 sq mi.

Records available.--October 1935 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 389.05 ft above mean sea level (levels by U.S. Weather Bureau). Prior to Nov. 6, 1940, staff gage at same site and datum. Nov. 6, 1940, to July 28, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 238 cfs (172,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,720 cfs Jan. 28 (gage height, 14.93 ft); minimum, 3.9 cfs Aug. 26.

1935-67: Maximum discharge, 6,990 cfs Dec. 22, 1955, (gage height, 20.17 ft); minimum, 3.9 cfs Aug. 26, 1967.

Remarks.--Records good except those for period of shifting control, which are fair. Slight diurnal fluctuation caused by logpond above Noti. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	16	116	133	794	221	256	166	80	26	7.5	4.4
2	11	16	244	143	629	236	233	158	88	25	7.2	5.3
3	11	17	232	136	521	220	215	154	78	22	6.4	5.8
4	15	16	499	273	454	201	209	148	68	21	6.0	7.2
5	13	16	1,110	456	391	190	205	142	66	20	6.0	5.1
6	9.6	18	891	430	357	177	195	135	63	19	6.4	4.9
7	12	19	872	398	325	169	183	130	62	19	7.8	4.5
8	14	18	880	338	303	166	173	126	57	18	7.2	4.4
9	12	18	579	289	280	183	168	125	56	18	6.9	5.1
10	10	26	633	256	260	278	164	134	59	18	6.4	5.8
11	13	99	661	255	247	291	159	128	59	17	6.2	9.6
12	15	154	600	236	235	279	152	121	59	16	6.4	12
13	16	124	681	318	270	266	175	116	58	15	6.9	9.6
14	15	322	765	352	278	252	218	110	56	14	7.5	8.1
15	14	371	536	314	380	476	224	104	52	12	5.6	7.8
16	13	347	404	276	444	446	248	101	48	12	5.1	6.2
17	12	233	313	252	435	390	333	98	45	12	5.3	6.6
18	12	147	264	236	393	424	338	94	42	11	4.7	11
19	11	169	234	258	353	397	354	90	39	12	5.1	12
20	16	289	223	919	299	348	313	88	38	11	4.5	10
21	44	201	200	1,220	279	313	276	83	42	12	5.1	9.0
22	47	146	181	966	265	286	245	81	48	11	5.3	8.4
23	46	121	182	647	250	335	218	80	56	9.6	4.7	8.4
24	35	99	193	529	237	401	202	78	47	10	4.4	7.8
25	24	85	193	474	228	368	197	76	42	9.6	4.3	6.9
26	19	83	174	774	210	333	212	75	37	10	4.0	6.4
27	18	82	152	1,460	197	302	213	74	35	12	4.9	6.6
28	17	78	137	2,360	190	279	195	75	33	10	6.4	6.2
29	16	73	127	2,180	------	275	183	79	30	8.7	5.6	6.6
30	15	72	135	1,700	------	284	177	79	27	8.1	4.4	11
31	15	------	132	1,100	------	279	------	82	------	8.4	4.5	------
TOTAL	555.6	3,475	12,543	19,678	9,504	9,065	6,633	3,330	1,570	447.4	178.7	222.7
MEAN	17.9	116	405	635	339	292	221	107	52.3	14.4	5.76	7.42
MAX	47	371	1,110	2,360	794	476	354	166	88	26	7.8	12
MIN	9.6	16	116	133	190	166	152	74	27	8.1	4.0	4.4
CFSM	.20	1.30	4.53	7.11	3.80	3.27	2.48	1.20	.59	.16	.06	.08
IN.	.23	1.45	5.22	8.20	3.96	3.78	2.76	1.39	.65	.19	.07	.09
AC-FT	1,100	6,890	24,880	39,030	18,850	17,980	13,160	6,600	3,110	887	354	442

CAL YR 1966: TOTAL 87,851.8 MEAN 227 MAX 5,530 MIN 5.8 CFSM 2.54 IN 34.50 AC-FT 164,300
WAT YR 1967: TOTAL 67,202.4 MEAN 184 MAX 2,360 MIN 4.0 CFSM 2.06 IN 27.99 AC-FT 133,300

Peak discharge (base, 1,600 cfs).--Jan. 28 (1800 hrs) 2,720 cfs (14.93 ft).

Note.--Shifting-control method used June 17 to Sept. 30.

14-1670. Coyote Creek near Crow, Oreg.

Location.--Lat 44°01'19", long 123°15'17", in SW¼NE¼ sec.11, T.18 S., R.5 W., on right bank 1.0 mile downstream from Spencer Creek, 4.3 miles (revised) northeast of Crow, and at mile 3.8.

Drainage area.--95.1 sq mi.

Records available.--July 1940 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 374.0 ft above mean sea level (Corps of Engineers bench mark). Prior to Aug. 31, 1940, staff gage near same site at different datums. Aug. 31, 1940, to July 27, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 186 cfs (134,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,060 cfs Dec. 7 (gage height, 10.83 ft); no flow Oct. 1 to Nov. 11, July 25 to Sept. 30.

1940-67: Maximum discharge, 10,600 cfs Feb. 10, 1961 (gage height, 14.43 ft), from rating curve extended above 4,700 cfs by logarithmic plotting; no flow at times.

Remarks.--Records good. Several small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0	0	87	67	514	151	151	131	34	3.0	0	0
2	0	0	178	68	381	149	130	114	31	2.1	0	0
3	0	0	171	70	293	136	118	104	24	1.4	0	0
4	0	0	547	103	239	119	107	93	18	1.2	0	0
5	0	0	1,380	233	204	108	105	86	9.1	1.2	0	0
6	0	0	1,140	268	175	99	98	74	9.7	.73	0	0
7	0	0	1,590	248	157	91	87	64	14	.56	0	0
8	0	0	1,020	212	143	87	75	57	14	.29	0	0
9	0	0	378	182	130	98	68	108	14	.23	0	0
10	0	0	606	156	119	257	67	125	13	.17	0	0
11	0	0	477	183	110	249	61	114	9.7	.06	0	0
12	0	4.8	472	155	105	221	55	110	5.6	.11	0	0
13	0	29	447	170	130	195	73	81	12	.11	0	0
14	0	66	471	159	160	166	91	65	11	.06	0	0
15	0	222	408	147	237	147	75	55	9.7	.04	0	0
16	0	294	293	139	264	143	89	52	8.5	.02	0	0
17	0	190	222	126	258	159	126	48	7.9	.01	0	0
18	0	97	179	114	246	221	157	46	6.4	5.6	0	0
19	0	157	151	146	214	198	182	44	6.0	.56	0	0
20	0	263	142	852	187	183	163	42	5.3	.13	0	0
21	0	164	129	1,540	168	160	147	39	5.6	.07	0	0
22	0	104	110	1,150	151	143	126	34	5.3	.05	0	0
23	0	72	100	719	138	210	120	33	.85	.06	0	0
24	0	58	94	490	129	314	110	30	4.3	.04	0	0
25	0	46	97	357	126	253	110	28	5.6	0	0	0
26	0	43	93	545	114	219	130	28	5.3	0	0	0
27	0	39	82	834	99	182	220	25	4.6	0	0	0
28	0	33	76	1,690	93	167	202	25	4.0	0	0	0
29	0	32	72	1,500	------	175	166	27	3.7	0	0	0
30	0	33	70	936	------	194	156	28	3.2	0	0	0
31	0	------	67	707	------	177	------	36	------	0	0	------
TOTAL	0	1,946.8	12,359	14,266	5,284	5,371	3,565	1,946	305.35	17.80	0	0
MEAN	0	64.9	399	460	189	173	119	62.8	10.2	.57	0	0
MAX	0	294	1,620	1,690	514	314	220	131	34	5.6	0	0
MIN	0	0	67	67	93	87	55	25	.85	0	0	0
AC-FT	0	3,860	24,510	28,300	10,480	10,650	7,070	3,860	606	35	0	0
CFSM	0	.682	4.20	4.84	1.99	1.82	1.25	.660	.107	.060	0	0
IN.	0	.76	4.83	5.58	2.07	2.10	1.39	.76	.12	.01	0	0

CAL YR 1966: TOTAL 61,569.7 MEAN 169 MAX 5,240 MIN 0 AC-FT 122,100 CFSM 1.78 INCHES 24.08

WAT YR 1967: TOTAL 45,060.95 MEAN 123 MAX 1,690 MIN 0 AC-FT 89,380 CFSM 1.29 INCHES 17.62

Peak discharge (base, 1,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 7	2200	10.83	2,060	1-28	1230	10.71	1,940
1-21	1600	10.31	1,610				

14-1680. Fern Ridge Reservoir near Elmira, Oreg.

Location.--Lat 44°07'15", long 123°18'00", near center of sec.4, T.17 S., R.5 W., in control house at spillway section of dam across Long Tom River and Coyote Creek, 4.5 miles northeast of Elmira, and at mile 25.7.

Drainage area.--252 sq mi, not including Amazon Creek basin (see Remarks).

Records available.--October 1941 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 104,200 acre-ft June 1 (elevation, 373.82 ft); minimum, 6,790 acre-ft Dec. 16 (elevation, 352.87 ft).

1941-67: Maximum contents, 124,500 acre-ft Dec. 27, 1955 (elevation, 375.83 ft); minimum since first filling in 1942, 189 acre-ft Nov. 11, 1950 (elevation, 344.00 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete outlet and spillway, completed in 1941 by Corps of Engineers; storage began Nov. 13, 1941. Total capacity, 116,800 acre-ft at elevation 375.1 ft (maximum pool elevation). Usable capacity, 101,100 acre-ft (revised) between elevations 340.0 (sill of outlet gate) and 373.5 ft (normal maximum operating pool level); dead storage, 23 acre-ft below elevation 340.0 ft not included in figures given herein. Reservoir used for flood control and improvement of navigation. Since November 1951, most of flow of Amazon Creek has been diverted in SE¼ sec.29, T.17 S., R.4 W., and discharged into Fern Ridge Reservoir; drainage area at point of diversion, 21.3 sq mi.

Capacity table (elevation, in feet, and contents, in acre-feet)

352	5,600	357	14,510	366	46,820
353	6,980	358	16,970	368	58,380
354	8,550	360	22,620	370	71,980
355	10,230	362	29,260	372	87,830
356	12,300	364	37,180	374	106,000

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70,750	17,650	7,470	7,350	34,470	42,000	79,600	102,200	104,100	101,200	93,570	85,720
2	65,880	16,970	7,620	7,330	30,310	43,080	80,400	102,400	104,100	100,900	93,390	85,470
3	61,070	16,210	7,440	7,440	25,130	43,930	81,200	102,400	104,100	100,700	93,040	85,300
4	56,460	15,510	10,320	8,020	21,890	44,630	81,850	102,500	103,800	100,500	92,680	85,050
5	51,600	14,890	11,560	9,030	20,790	45,250	82,330	102,700	103,800	100,300	92,510	84,800
6	47,080	14,230	11,380	9,410	20,240	45,770	82,820	102,800	103,500	99,920	92,150	84,470
7	42,730	13,530	13,680	9,110	19,900	46,390	83,480	102,900	103,500	99,740	91,720	84,390
8	38,370	12,780	12,930	8,420	20,500	47,030	83,970	102,900	103,400	99,460	91,630	84,060
9	34,060	12,170	9,950	7,440	21,500	47,780	84,470	103,600	103,400	99,370	91,360	83,810
10	32,080	11,880	10,040	7,280	22,310	49,300	84,720	103,700	103,300	99,000	91,280	83,810
11	31,390	11,440	9,580	7,780	23,240	50,870	85,130	103,600	103,300	98,820	91,020	83,643
12	30,720	10,810	9,060	7,680	24,190	52,240	85,630	103,600	103,100	98,630	90,840	83,150
13	29,980	11,050	8,720	7,440	25,160	53,520	86,310	103,600	103,100	98,260	90,670	83,230
14	29,260	11,640	8,360	7,240	26,450	54,650	87,060	103,600	103,100	97,990	90,410	83,070
15	28,550	12,800	7,280	7,070	28,410	56,100	87,830	103,600	103,100	97,720	90,410	82,990
16	27,780	12,890	7,410	7,070	30,500	57,390	88,680	103,700	103,100	97,530	90,060	82,740
17	27,060	12,010	7,500	7,130	31,770	59,010	89,800	103,700	102,800	97,170	89,800	82,820
18	26,380	10,600	7,160	7,130	32,550	60,940	91,450	103,800	102,800	96,990	89,540	82,820
19	25,820	10,190	7,070	8,750	33,340	62,770	93,040	103,800	102,500	96,800	89,280	82,580
20	25,320	9,760	7,060	12,610	34,150	63,770	93,920	103,800	102,400	96,440	89,020	82,420
21	24,830	8,720	7,000	16,010	35,220	64,920	94,820	103,800	102,400	95,900	88,680	82,330
22	24,250	7,920	7,100	17,990	36,190	66,150	95,720	103,700	102,400	95,990	88,510	82,010
23	23,680	7,480	7,210	15,830	37,040	68,100	96,260	103,500	102,400	95,720	87,830	81,850
24	23,020	7,300	7,210	11,800	37,920	70,100	96,900	103,300	102,400	95,540	87,660	81,770
25	22,380	7,180	7,240	8,890	38,640	71,690	97,900	103,400	102,400	95,090	87,400	81,520
26	21,740	7,240	7,220	9,440	39,320	72,940	98,820	103,500	102,200	94,820	87,320	81,520
27	21,120	7,180	7,130	15,460	39,960	74,210	99,920	103,500	102,000	94,640	86,980	81,360
28	20,360	7,100	7,130	25,820	40,660	75,340	101,200	103,600	101,900	94,460	86,810	81,200
29	19,670	7,090	7,090	36,060	----------	76,640	101,700	103,700	101,500	94,280	86,560	81,200
30	19,000	7,180	7,150	39,870	----------	77,800	102,000	103,800	101,200	94,100	86,310	81,200
31	18,340	----------	7,300	38,010	----------	78,740	----------	103,900	----------	93,750	86,140	----------
Max	70,750	17,650	13,680	39,870	40,660	78,740	102,000	103,900	104,100	101,200	93,570	85,720
Min	18,340	7,090	7,000	7,070	19,900	42,000	79,600	102,200	101,200	93,750	86,140	81,200
(†)	358.52	353.13	353.21	364.19	364.77	370.89	373.58	373.78	373.50	372.68	371.80	371.20
(‡)	-54,970	-11,160	+120	+30,710	+2,650	+38,080	+23,260	+1,900	-2,700	-7,450	-7,610	-4,940

Cal yr 1966: Max 106,900 Min 7,000 Ac-ft ‡ -25,050
Wtr yr 1967: Max 104,100 Min 7,000 Ac-ft ‡ +7,890

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1690. Long Tom River near Alvadore, Oreg.

Location.--Lat 44°07'25", long 123°17'55", in SW¼NE¼ sec.4, T.17 S., R.5 W., on left bank 0.2 mile downstream from Fern Ridge Dam, 1.7 miles west of Alvadore, and at mile 25.5.

Drainage area.--252 sq mi, not including Amazon Creek basin.

Records available.--August 1939 to September 1967. Prior to October 1943, published as "at Smithfield," and October 1943 to September 1959, as "below Fern Ridge Dam, near Smithfield."

Gage.--Digital water-stage recorder and masonry control. Datum of gage is 332.00 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Sept. 21, 1939, staff gage and Sept. 21, 1939, to Sept. 30, 1943, graphic water-stage recorder, at site 2.5 miles downstream at datum 11.09 ft lower. Oct. 1, 1943 to May 28, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--28 years, 543 cfs (393,100 acre-ft per year), adjusted for diversion to Coyote Creek since 1943.

Extremes.--Maximum discharge during year, 4,300 cfs Dec. 8; minimum daily, 11 cfs June 28.

1939-67: Maximum discharge, 11,500 cfs Jan. 1, 1943 (gage height, 15.12 ft, site and datum then in use); minimum daily, 2 cfs Aug. 7, 1941.

Remarks.--Records good. Flow regulated since 1941 by Fern Ridge Reservoir (see sta. no. 1680). Several small diversions for irrigation above station. Records include diversion to Coyote Creek channel. Point of diversion is 500 ft upstream and point of return, 2.3 miles downstream. Discharge not adjusted for storage or release from Fern Ridge Reservoir as evaporation from reservoir at times exceeds natural flow and diversions, and beginning in November 1951, most of flow of Amazon Creek has been diverted into Fern Ridge Reservoir.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.120	376	277	242	3.860	46	47	221	99	44	47	57
2	2.380	374	556	271	3.690	46	50	221	130	38	47	57
3	2.380	374	672	300	3.710	45	51	221	141	39	48	58
4	2.360	370	1.060	407	2.680	45	50	183	89	39	47	60
5	2.340	367	2.580	623	1.480	45	50	166	73	40	47	60
6	2.330	375	3.480	949	1.070	45	51	166	50	41	47	60
7	2.190	392	2.760	1.080	773	44	51	166	50	48	47	54
8	1.990	389	3.740	1.070	300	45	49	166	50	52	47	50
9	2.140	383	4.010	1.040	49	44	49	167	48	53	47	48
10	965	384	2.130	692	45	46	48	295	50	53	47	48
11	400	521	1.970	495	45	45	48	314	50	52	47	49
12	399	607	1.920	681	44	46	48	243	48	49	47	51
13	396	598	1.900	793	45	45	48	196	47	46	47	51
14	394	608	1.880	793	45	40	49	149	47	44	47	49
15	391	616	1.840	716	49	36	50	122	47	46	47	49
16	388	932	1.030	590	48	36	49	94	46	48	51	48
17	387	1.050	777	499	392	39	51	80	46	50	51	48
18	383	1.020	745	438	509	46	51	86	46	49	54	51
19	389	1.000	595	444	402	45	52	91	45	48	54	50
20	388	991	547	1.240	272	45	51	91	45	48	54	50
21	389	973	487	2.090	45	45	51	91	45	48	54	48
22	386	697	358	2.140	45	44	51	90	46	48	54	47
23	386	441	333	2.870	46	44	50	86	47	48	54	46
24	386	264	368	3.550	45	48	52	62	46	48	54	46
25	384	201	368	2.710	45	52	50	50	46	47	54	46
26	375	144	368	1.920	46	53	51	50	43	47	54	46
27	381	166	333	829	46	53	51	50	14	47	54	46
28	385	166	274	54	45	50	134	52	11	47	56	46
29	386	133	274	57		48	218	52	57	47	54	46
30	382	129	222	1.630	- - - - -	46	217	52	56	47	54	46
31	378	- - - - -	187	3.730	- - - - -	45	- - - - -	74	- - - - -	47	54	- - - - -
Total	28.328	15.041	38.041	34.943	19.871	1.402	1.918	4.147	1.658	1.448	1.566	1.511
Mean	914	501	1,227	1,127	710	45.2	63.9	134	55.3	46.7	50.5	50.4
Max	2,380	1,050	4,010	3,730	3,860	53	218	314	141	53	56	60
Min	375	129	187	54	44	36	47	50	11	38	47	46
Ac-ft	56,190	29,830	75,450	69,310	39,410	2,780	3,800	8,230	3,290	2,870	3,110	3,000

Cal yr 1966: Total	210,107	Mean	576	Max	6,120	Min	33	Ac-ft 416,700
Wtr yr 1967: Total	149,874	Mean	411	Max	4,010	Min	11	Ac-ft 297,300

14-1693. Amazon Creek at Eugene, Oreg.

Location.--Lat 44°00'45", long 123°04'35", in SW¼SE¼ sec.8, T.18 S., R.3 W., on right bank 145 ft south of intersection of 39th Street and E. Amazon Drive in Eugene, and at mile 20.3.

Drainage area.--3.35 sq mi.

Records available.--October 1962 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 442.33 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 2, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--5 years, 4.75 cfs (3,440 acre-ft per year).

Extremes.--Maximum discharge during year, 174 cfs Dec. 7 (gage height, 4.84 ft); minimum, 0.02 cfs Oct. 15.

1962-67: Maximum discharge, 527 cfs Jan. 19, 1964 (gage height, 7.29 ft); no flow at times.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.04	.05	7.4	1.3	10	8.4	4.3	3.5	1.0	.38	.22	.11
2	.04	.05	5.3	.95	7.5	8.6	3.3	2.8	.70	.37	.18	.11
3	.04	.05	3.8	1.8	5.7	7.7	2.7	2.3	.40	.43	1.0	.11
4	.05	.05	89	13	4.4	4.9	2.4	1.8	.30	.41	1.5	.11
5	.04	.51	41	13	3.5	3.7	2.2	1.6	.25	.47	.58	.11
6	.04	.58	32	12	2.9	3.0	1.8	1.4	.29	.35	.14	.08
7	.04	.14	92	7.0	2.5	2.5	1.5	1.2	.31	.36	.18	.11
8	.06	.08	30	4.8	2.1	2.3	1.3	1.1	.33	.33	.22	.11
9	.03	.43	19	3.6	1.9	8.1	1.3	9.5	.28	.35	.18	.08
10	.04	6.1	20	4.3	1.6	14	1.2	3.9	.27	.33	.22	1.0
11	.04	3.4	16	7.2	1.7	6.9	1.3	4.1	.26	.48	.14	.65
12	.44	2.0	16	5.2	1.4	5.4	1.1	3.0	.27	.39	.14	.08
13	.06	7.9	21	5.2	4.8	4.9	4.3	2.1	.27	.54	.14	.05
14	.05	22	14	3.7	3.8	3.7	2.1	1.6	.50	.44	.18	.08
15	.06	27	8.8	3.4	9.2	2.9	1.5	1.4	1.4	.33	.31	.08
16	.05	14	6.0	2.9	5.0	3.6	6.5	1.1	.98	.27	.26	.08
17	.05	3.8	4.3	2.3	9.9	8.3	3.8	1.1	.32	.26	.26	.79
18	.06	1.9	3.2	2.0	8.5	16	5.5	.89	.29	.18	.22	.26
19	.13	13	2.6	15	5.5	8.2	3.2	.76	.29	.14	.18	.08
20	3.2	5.9	3.8	64	4.1	5.9	4.1	.67	.42	.22	.18	.05
21	.40	2.7	2.5	48	3.2	4.4	3.2	.63	.70	.18	.22	.08
22	.94	1.5	2.0	22	2.7	4.0	2.2	1.8	.53	.11	.22	.05
23	.21	.97	1.9	12	2.4	16	1.8	.62	.24	.11	.14	.05
24	.10	.81	1.7	8.6	2.3	11	2.3	.40	.21	.11	.14	.05
25	.08	1.3	2.6	8.4	2.6	8.4	4.8	.35	.26	.11	.14	.05
26	.36	.89	1.8	26	1.9	6.3	18	.30	.26	.14	.14	.05
27	.09	.72	1.5	36	1.6	4.5	11	.30	.34	.18	.14	.05
28	.12	.75	1.3	53	4.4	4.9	7.1	.45	.31	.18	.18	.05
29	.06	.69	1.2	26	------	7.8	5.5	.70	.46	.18	.18	.93
30	.07	1.1	1.1	18	------	9.0	4.6	2.3	.33	.14	.14	.65
31	.10	------	.98	14	------	5.8	------	.84	------	.18	.22	------
TOTAL	7.09	120.37	453.78	444.65	117.1	211.1	115.9	54.51	12.77	8.65	8.29	6.14
MEAN	.23	4.01	14.6	14.3	4.18	6.81	3.86	1.76	.43	.28	.27	.20
MAX	3.2	27	92	64	10	16	18	9.5	1.4	.54	1.5	1.0
MIN	.03	.05	.98	.95	1.4	2.3	1.1	.30	.21	.11	.14	.05
CFSM	.07	1.20	4.37	4.28	1.25	2.03	1.15	.52	.13	.08	.08	.06
IN.	.08	1.34	5.04	4.94	1.30	2.34	1.29	.61	.14	.10	.09	.07
AC-FT	14	239	900	882	232	419	230	108	25	17	16	12

CAL YR 1966: TOTAL 1,765.14 MEAN 4.84 MAX 196 MIN 0 CFSM 1.44 IN 19.60 AC-FT 3,500
WAT YR 1967: TOTAL 1,560.35 MEAN 4.27 MAX 92 MIN .03 CFSM 1.28 IN 17.32 AC-FT 3,100

Peak discharge (base, 125 cfs).--Dec. 7 (1100 hrs) 174 cfs (4.84 ft).

14-1695. Amazon Creek near Eugene, Oreg.

Location.--Lat 44°03'40", long 123°11'40", in SE¼ sec.29, T.17 S., R.4 W., on right bank 250 ft upstream from diversion structure, 5 miles west of Eugene, and at mile 12.3.

Drainage area.--21.3 sq mi.

Records available.--October 1954 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 372.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 28, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--13 years, 30.1 cfs (21,790 acre-ft per year).

Extremes.--Maximum discharge during year, 971 cfs Dec. 7 (gage height, 7.70 ft); no flow July 8, 9, Aug. 8, 9.

1954-67: Maximum discharge, 3,070 cfs Feb. 10, 1961 (gage height, 9.58 ft); no flow at times each year.

Remarks.--Records fair above 50 cfs, poor below. During summer and fall several diversions by pumping for irrigation; natural flow (if any) may be augmented slightly by return flow in and below the city of Eugene. Records include diversion at station to Fern Ridge Reservoir; diversion in 1967 water year amounted to 15,970 acre-ft.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.04	.50	47	8.1	52	56	17	15	4.9	1.4	.75	1.3
2	.03	.45	43	7.4	37	41	15	12	13	1.8	.90	2.5
3	.07	.60	23	10	31	33	24	12	4.9	1.0	.70	3.2
4	.32	.45	480	51	23	16	10	12	3.6	1.3	.85	2.8
5	.36	.60	240	77	17	12	11	12	2.5	1.1	.85	2.3
6	.40	9.3	152	53	14	11	10	12	2.8	.60	.50	2.4
7	.45	8.3	608	33	13	8.9	8.1	11	2.8	.28	.13	2.7
8	.45	1.3	150	22	12	8.9	6.8	11	2.8	0	0	2.7
9	.55	1.0	84	19	9.5	29	6.8	51	2.5	0	0	2.3
10	.55	19	97	14	9.5	93	7.4	33	.86	.16	.32	2.7
11	.36	58	75	49	10	45	6.2	31	.36	.70	.80	20
12	.55	17	79	31	9.5	43	5.8	24	.24	.32	1.3	11
13	9.2	22	89	41	32	33	17	15	.20	.65	1.6	7.3
14	1.1	177	67	24	32	24	15	13	.16	.80	1.4	6.0
15	.65	155	41	19	68	17	9.4	10	.16	.85	.80	5.7
16	.70	108	31	17	37	24	26	10	2.8	.65	1.1	5.9
17	.55	34	22	14	53	39	25	7.4	2.7	.13	1.8	6.2
18	.40	8.6	17	13	45	73	37	6.8	.32	.45	2.3	44
19	.36	98	14	66	29	39	17	6.4	.24	1.1	3.0	6.0
20	15	51	25	390	20	29	16	11	.45	.70	3.0	4.1
21	25	19	17	247	16	22	17	6.8	1.3	.75	2.4	3.6
22	9.1	9.3	12	97	12	17	9.4	6.2	12	1.0	2.3	3.4
23	8.5	5.4	12	57	12	76	8.1	5.8	8.9	1.1	3.3	2.9
24	2.0	3.8	11	44	11	56	8.8	3.6	1.8	.90	3.7	2.8
25	.80	1.5	17	34	14	37	29	3.2	1.0	.70	3.3	2.4
26	.75	5.0	13	145	11	31	76	2.8	.80	.70	2.3	1.5
27	3.7	1.5	9.4	155	9.5	20	56	2.5	.50	1.0	2.0	1.8
28	1.0	.35	8.8	337	11	22	34	3.2	.40	1.3	1.1	2.4
29	.65	4.2	7.4	132	------	34	22	4.9	.16	1.4	.60	3.1
30	.60	5.0	7.4	82	------	36	20	2.5	.65	1.3	.85	11
31	.55	------	6.2	72	------	32	------	22	------	1.0	1.0	------
TOTAL	84.74	825.15	2,505.2	2,360.5	650.0	1,057.8	570.8	379.1	75.80	25.14	44.95	176.0
MEAN	2.73	27.5	80.8	76.1	23.2	34.1	19.0	12.2	2.53	.81	1.45	5.87
MAX	25	177	608	390	68	93	76	51	13	1.8	3.7	44
MIN	.03	.35	6.2	7.4	9.5	8.9	5.8	2.5	.16	0	0	1.3
AC-FT	168	1,640	4,970	4,680	1,290	2,100	1,130	752	150	50	89	349
Cfsm	0.128	1.29	3.79	3.57	1.09	1.60	0.892	0.573	0.119	0.038	0.068	0.276
In.	0.15	1.44	4.37	4.12	1.14	1.85	0.99	0.66	0.13	0.04	0.08	0.31

CAL YR 1966: TOTAL 10,443.92 MEAN 28.6 MAX 1,030 MIN .03 AC-FT 20,720 CFSM 1.34 INCHES 18.24
WAT YR 1967: TOTAL 8,755.18 MEAN 24.0 MAX 608 MIN 0 AC-FT 17,370 CFSM 1.13 INCHES 15.29

Peak discharge (base, 800 cfs).--Dec. 4 (1430 hrs) 925 cfs (7.55 ft); Dec. 7 (1300 hrs) 971 cfs (7.70 ft).

14-1700. Long Tom River at Monroe, Oreg.

Location.--Lat 44°18'50", long 123°17'45", in NE¼ sec.33, T.14 S., R.5 W., on left bank in canalized river channel at Monroe, 110 ft upstream from bridge on U.S. Highway 99W, 0.1 mile downstream from Shafer Creek, and at mile 6.8.

Drainage area.--391 sq mi.

Records available.--November 1920 to July 1921, October 1921 to April 1926, November 1926 to May 1927, October 1927 to September 1967. Prior to October 1930, published as "near Monroe."

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 270.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 24, 1944, staff gage at various sites ranging from present site to 1.5 miles downstream at different datums. Nov. 25, 1944, to Aug. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--44 years (1921-25, 1927-67), 776 cfs (561,800 acre-ft per year).

Extremes.--Maximum discharge during year, 5,230 cfs Dec. 6 (gage height, 8.27 ft); minimum daily, 20 cfs June 29.

1920-67: Maximum discharge, 19,300 cfs Jan. 2, 1943 (gage height, 17.14 ft, site and datum then in use, from graph based on gage readings), includes some overflow from Willamette River near Junction City; no flow Oct. 20-22, 1944 (water filling pool at gage); minimum observed prior to regulation, 7 cfs Sept. 29, Oct. 1, 1939.

Remarks.--Records good. Flow regulated since 1941 by Fern Ridge Reservoir (see sta. no. 1680). Several small diversions above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	580	351	402	328	4,480	244	233	313	128	49	32	47
2	2,570	349	730	374	4,160	261	211	304	149	37	29	48
3	2,600	343	930	429	3,940	228	195	299	174	35	31	48
4	2,610	341	2,040	673	3,390	195	184	281	130	30	32	50
5	2,580	341	3,620	1,090	2,000	179	184	241	110	30	31	49
6	2,590	340	4,970	1,290	1,350	164	179	231	78	29	33	51
7	2,520	365	3,920	1,410	1,100	158	169	225	73	28	35	50
8	2,210	361	4,660	1,320	673	153	164	222	68	35	32	41
9	2,290	360	4,880	1,250	267	164	153	233	68	38	36	42
10	1,560	370	3,640	1,020	239	361	153	303	67	38	32	45
11	390	478	2,820	718	228	348	153	399	65	37	31	48
12	388	665	2,740	862	217	285	148	333	65	38	30	47
13	381	682	2,820	1,260	279	261	164	258	64	39	31	46
14	380	865	2,700	1,160	315	233	206	230	60	29	27	45
15	378	902	2,400	1,030	546	394	211	180	56	27	28	44
16	379	1,170	1,680	871	506	354	239	166	52	31	30	43
17	371	1,300	1,090	727	570	335	328	126	54	35	33	42
18	366	1,180	1,020	619	890	422	291	125	57	39	36	44
19	365	1,300	844	763	655	361	354	134	60	38	42	43
20	377	1,400	763	2,320	586	309	261	133	55	38	45	42
21	379	1,210	700	3,640	250	267	223	131	57	37	46	43
22	382	943	562	3,260	228	250	197	129	61	38	43	41
23	385	611	466	3,170	217	348	185	126	62	38	41	47
24	374	328	530	3,980	206	538	172	113	56	37	43	52
25	367	303	546	3,430	200	415	172	84	57	36	44	46
26	360	180	522	2,980	184	335	189	84	56	36	43	45
27	352	210	490	2,990	174	285	233	79	35	34	46	44
28	360	205	394	2,930	174	267	231	84	25	33	48	43
29	365	194	387	2,500	------	261	340	84	20	36	45	46
30	364	166	354	2,560	------	261	327	85	45	33	45	47
31	358	------	291	4,440	------	267	------	87	------	35	47	------
TOTAL	29,931	17,813	53,911	55,394	28,024	8,903	6,449	5,822	2,107	1,093	1,147	1,369
MEAN	966	594	1,739	1,787	1,001	287	215	188	70.2	35.3	37.0	45.6
MAX	2,610	1,400	4,970	4,440	4,480	538	354	399	174	49	48	52
MIN	352	166	291	328	174	153	148	79	20	27	27	41
AC-FT	59,370	35,330	106,900	109,900	55,580	17,660	12,790	11,550	4,180	2,170	2,280	2,720

CAL YR 1966: TOTAL 315,711 MEAN 865 MAX 7,870 MIN 19 AC-FT 626,200
WAT YR 1967: TOTAL 211,963 MEAN 581 MAX 4,970 MIN 20 AC-FT 420,400

14-1710. Marys River near Philomath, Oreg.

Location.--Lat 44°31'35", long 123°20'00", in NE¼SE¼ sec.18, T.12 S., R.5 W., on left bank 50 ft downstream from bridge on Bellfountain Road, 0.6 mile downstream from Newton Creek, 2.0 miles southeast of Philomath, and at mile 9.4.

Drainage area.--159 sq mi (including drainage area of Evergreen Creek above Bellfountain Road, 1.4 miles south of station).

Records available.--October 1940 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 218 ft (by barometer). Prior to Oct. 1, 1961, wire-weight gage at bridge 50 ft upstream at same datum. Oct. 1, 1961, to Sept. 8, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 465 cfs (336,600 acre-ft per year).

Extremes.--Maximum discharge during year, 6,660 cfs Jan. 28 (gage height, 20.29 ft); minimum, 0.60 cfs Aug. 23.

1940-67: Maximum discharge, 13,600 cfs Dec. 22, 1964 (gage height, 20.72 ft); maximum gage height observed, 20.83 ft Dec. 21, 1955, minimum discharge, 0.60 cfs Aug. 23, 1967.

Remarks.--Records excellent. Records include flow of Evergreen Creek at Bellfountain Road crossing 1.4 miles south of station, with which overflow from Marys River may at times be mingled. Slight regulation by small storage reservoir on Rock Creek from which municipal supply is diverted for city of Corvallis. Other small diversions above station for irrigation of 1,500 acres.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	11	21	207	280	1,790	393	488	250	105	28	11	2.7
2	10	22	363	294	1,350	479	445	239	101	27	9.8	4.5
3	9.9	20	604	336	1,050	497	411	227	90	25	7.8	5.9
4	8.9	20	1,840	535	867	445	387	215	83	23	6.2	6.2
5	8.7	19	2,630	921	732	403	372	205	78	21	6.5	5.6
6	8.8	19	1,900	872	630	369	352	201	72	21	7.2	5.3
7	9.3	19	1,870	809	560	343	325	195	70	20	7.2	5.0
8	10	21	1,650	702	503	325	307	189	70	20	6.8	3.9
9	10	23	1,280	598	457	352	295	194	69	20	7.2	3.7
10	10	27	1,680	515	421	443	286	194	68	19	5.6	4.8
11	9.8	117	1,320	504	393	443	270	182	67	17	5.3	7.5
12	11	250	1,310	489	366	423	253	176	66	17	5.0	7.2
13	15	227	1,930	1,100	460	398	302	167	62	18	6.2	6.5
14	14	403	1,900	1,190	546	396	387	161	59	16	5.3	6.5
15	13	466	1,380	1,000	958	1,840	384	154	54	16	5.6	6.5
16	14	411	1,020	900	1,160	1,770	464	149	49	16	5.0	6.2
17	13	320	782	762	1,230	1,440	555	144	48	15	3.2	5.9
18	12	231	625	661	1,210	1,380	499	138	44	15	2.7	8.1
19	12	251	517	910	1,030	1,130	443	134	42	15	3.0	8.4
20	20	273	448	1,720	851	972	393	128	40	15	3.2	7.8
21	47	225	385	1,670	714	796	352	123	43	14	4.8	7.5
22	69	185	339	1,420	615	692	325	116	50	14	3.7	7.8
23	69	151	316	1,220	544	863	306	111	55	14	2.0	7.2
24	57	130	324	1,090	492	998	286	109	50	14	3.9	6.5
25	40	121	383	1,150	445	859	280	106	44	12	3.5	4.2
26	30	140	353	1,410	403	746	304	102	39	12	2.7	5.3
27	26	137	313	3,020	369	648	282	99	36	12	3.0	5.6
28	23	121	288	5,550	358	587	267	101	34	12	2.5	5.0
29	23	111	279	5,340	------	551	258	100	32	11	1.4	5.6
30	23	106	273	4,090	------	551	255	105	30	11	1.7	7.8
31	23	------	252	2,590	------	542	------	117	------	11	2.5	------
TOTAL	660.4	4,587	28,761	43,648	20,504	22,074	10,533	4,831	1,750	521	151.5	180.7
MEAN	21.3	153	928	1,408	732	712	351	156	58.3	16.8	4.89	6.02
MAX	69	466	2,630	5,550	1,790	1,840	555	250	105	28	11	8.4
MIN	8.7	19	207	280	358	325	253	99	30	11	1.4	2.7
CFSM	.13	.96	5.84	8.86	4.61	4.48	2.21	.98	.37	.11	.03	.04
IN.	.15	1.07	6.73	10.2	4.80	5.16	2.46	1.13	.41	.12	.04	.04
AC-FT	1,310	9,100	57,050	86,570	40,670	43,780	20,890	9,580	3,470	1,030	300	358

CAL YR 1966: TOTAL 165,211.2 MEAN 453 MAX 6,700 MIN 2.4 CFSM 2.85 IN 38.64 AC-FT 327,700
WAT YR 1967: TOTAL 138,201.6 MEAN 379 MAX 5,550 MIN 1.4 CFSM 2.38 IN 32.33 AC-FT 274,100

Peak discharge (base, 3,200 cfs).--Jan. 28 (0300 hrs) 6,660 cfs (20.29 ft).

14-1715. Muddy Creek near Corvallis, Oreg.

Location.--Lat 44°29'50", long 123°19'45", in NW¼SW¼ sec.29, T.12 S., R.5 W., on right bank 0.7 mile downstream from Bull Run Creek, 5.0 miles southwest of Corvallis, and at mile 3.6.

Drainage area.--107 sq mi.

Records available.--October 1920 to June 1921, November 1921 to April 1923, December 1925 to April 1926, November 1926 to April 1927, October 1963 to September 1967. Monthly discharge only for December 1925 published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 216.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Soil Conservation Service, U. S. Department of Agriculture). Prior to October 1963, staff and auxiliary chain gage at same site at different datums. Oct. 1, 1963, to Sept. 11, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 2,730 cfs Jan. 29 (gage height, 19.41 ft); minimum, 0.82 cfs Aug. 24, 25, 29.

1920-23, 1925-27, 1963-67: Maximum discharge, 6,040 cfs Dec. 22, 1964 (gage height, 22.61 ft, from floodmark); minimum, 0.58 cfs Aug. 23, 1966.

Remarks.--Records good. No regulation. Small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	7.7	56	125	1,130	164	266	107	40	12	2.2	1.7
2	4.0	8.0	82	125	834	190	248	99	42	11	1.7	1.5
3	4.1	7.5	136	143	664	203	215	92	40	10	1.7	1.3
4	4.2	6.9	357	211	535	192	188	87	37	9.8	1.7	1.6
5	4.2	8.2	743	337	436	172	171	84	35	9.5	1.6	1.7
6	3.9	8.7	1,180	392	363	152	160	80	33	8.4	1.1	1.4
7	3.3	8.9	1,470	429	311	138	150	76	30	7.8	.96	1.4
8	3.3	12	1,240	418	272	130	141	73	29	6.6	1.1	1.7
9	3.7	14	982	377	242	129	134	70	28	5.4	1.2	1.8
10	5.0	16	964	310	221	187	127	70	29	5.4	1.4	1.9
11	5.8	26	827	263	203	214	116	71	29	6.1	1.7	1.7
12	6.5	49	784	242	192	239	110	70	28	4.4	1.3	2.0
13	8.5	63	862	323	207	222	112	67	27	3.7	1.1	2.1
14	9.3	84	913	338	235	206	122	63	26	4.1	1.3	1.8
15	8.8	111	860	339	370	540	134	60	25	4.7	1.6	1.7
16	9.7	138	769	327	436	591	174	58	23	4.7	1.5	1.7
17	11	147	620	293	454	630	225	55	23	4.0	1.3	2.1
18	11	135	481	258	452	636	237	53	21	3.7	1.3	2.1
19	11	122	359	283	400	531	226	51	20	3.1	1.1	2.4
20	11	116	273	636	343	468	189	49	19	3.8	1.3	2.0
21	17	116	226	808	292	394	162	47	18	3.3	1.4	1.8
22	15	135	200	1,050	252	337	143	45	17	3.5	1.2	1.9
23	19	113	180	906	226	352	131	42	18	3.3	.96	2.3
24	18	84	181	736	208	429	122	41	18	3.3	.86	2.6
25	18	66	198	641	193	421	120	40	19	3.4	.90	2.4
26	17	58	195	693	179	410	118	38	19	3.3	1.1	2.4
27	13	52	182	1,200	165	353	116	37	17	3.3	1.0	2.1
28	10	49	160	2,470	153	302	115	37	16	3.1	1.0	2.0
29	8.4	48	142	2,650	------	270	114	37	14	3.1	.86	2.1
30	7.5	45	131	2,160	------	259	109	37	13	2.5	1.1	2.0
31	6.4	------	123	1,590	------	270	------	39	------	2.5	1.7	------
TOTAL	281.8	1,854.9	15,876	21,073	9,968	9,731	4,695	1,875	753	162.8	40.24	57.2
MEAN	9.09	61.8	512	680	356	314	157	60.5	25.1	5.25	1.30	1.91
MAX	19	147	1,470	2,650	1,130	636	266	107	42	12	2.2	2.6
MIN	3.3	6.9	56	125	153	129	109	37	13	2.5	.86	1.3
AC-FT	559	3,680	31,490	41,800	19,770	19,300	9,310	3,720	1,490	323	80	113
CFSM	.085	.578	4.78	6.36	3.33	2.93	1.47	.565	.235	.049	.012	.018
IN	.10	.64	5.52	7.32	3.46	3.38	1.63	.65	.26	.06	.01	.02

CAL YR 1966: TOTAL 84,659.20 MEAN 232 MAX 3,960 MIN .70 AC-FT 167,900 CFSM 2.17 INCHES 29.43
WAT YR 1967: TOTAL 66,367.94 MEAN 182 MAX 2,650 MIN .86 AC-FT 131,600 CFSM 1.70 INCHES 23.07

14-1720. Calapooia River at Holley, Oreg.

Location.--Lat 44°21'05", long 122°47'10", in SE¼ sec.15, T.14 S., R.1 W., on right bank 200 ft downstream from bridge on State Highway 228, 0.3 mile southwest of Holley, 5.0 miles upstream from Brush Creek, and at mile 45.4.

Drainage area.--105 sq mi.

Records available.--September 1935 to September 1967. Prior to 1964, published as "Calapooya River."

Gage.--Digital water-stage recorder. Datum of gage is 527.58 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 7, 1963, staff gage and Oct. 7, 1963, to Aug. 26, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 444 cfs (321,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,020 cfs Jan. 28 (gage height, 7.05 ft); minimum, 19 cfs Sept. 6-10, 28, 29.

1935-67: Maximum discharge, 12,600 cfs Dec. 22, 1964 (gage height, 14.60 ft); maximum gage height, 15.30 ft Dec. 22, 1964 (backwater from debris); minimum discharge observed, 13 cfs Sept. 8, 1940.

Remarks.--Records excellent. Slight regulation at times during low-water periods by small dam upstream. Diversions for irrigation of about 150 acres above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	23	55	435	349	1,080	492	377	380	184	61	33	20
2	24	52	422	339	947	494	366	360	187	58	32	20
3	27	49	385	515	796	444	363	353	166	56	32	20
4	25	47	890	761	686	405	367	357	158	54	31	20
5	23	49	1,170	679	605	373	357	351	148	53	30	20
6	22	82	1,100	571	532	348	333	352	143	51	31	19
7	23	68	1,190	498	475	330	314	368	133	51	31	19
8	24	62	910	447	434	313	313	388	125	51	30	19
9	25	61	766	432	397	343	302	464	118	50	30	19
10	24	240	1,590	434	366	382	287	430	113	49	29	20
11	23	977	1,550	624	343	346	272	394	108	48	28	81
12	26	1,130	2,040	626	320	327	259	369	106	47	28	66
13	54	611	2,380	1,480	346	316	323	334	113	45	26	36
14	39	2,230	1,940	1,260	325	308	327	314	98	44	26	29
15	32	2,900	1,280	982	376	302	309	317	93	43	25	25
16	28	2,030	977	839	421	401	337	342	89	42	25	23
17	26	1,180	777	681	1,320	501	347	353	86	41	24	24
18	25	766	640	583	1,570	713	386	322	82	41	24	28
19	25	685	550	653	977	624	391	298	78	41	24	25
20	112	689	539	1,810	741	566	375	289	75	40	23	24
21	188	544	468	1,580	619	567	355	282	95	40	23	23
22	400	447	416	1,090	542	551	360	263	135	39	23	22
23	308	381	389	837	497	642	416	240	102	38	23	21
24	186	333	370	689	470	612	402	215	87	38	22	21
25	121	358	432	609	468	547	480	195	79	37	22	20
26	95	479	390	1,350	425	496	571	180	74	37	22	20
27	102	386	347	2,640	389	449	579	173	70	36	22	20
28	80	342	319	3,490	395	428	510	180	68	36	21	19
29	69	309	314	2,470	------	404	454	193	66	35	21	24
30	65	310	327	1,790	------	400	411	211	63	34	21	60
31	59	------	299	1,380	------	396	------	218	------	33	21	------
TOTAL	2,303	17,852	25,602	32,488	16,862	13,820	11,243	9,485	3,242	1,369	803	807
MEAN	74.3	595	826	1,048	602	446	375	306	108	44.2	25.9	26.9
MAX	400	2,900	2,380	3,490	1,570	713	579	464	187	61	33	81
MIN	22	47	299	339	320	302	259	173	63	33	21	19
AC-FT	4,570	35,410	50,780	64,440	33,450	27,410	22,300	18,810	6,430	2,720	1,590	1,600
CFSM	.708	5.67	7.87	9.98	5.73	4.25	3.57	2.91	1.03	.421	.247	.256
IN	.82	6.32	9.07	11.51	5.97	4.89	2.98	3.36	1.15	.48	.28	.29

CAL YR 1966: TOTAL 155,513 MEAN 426 MAX 5,210 MIN 20 AC-FT 308,500 CFSM 4.06 INCHES 55.08
WAT YR 1967: TOTAL 135,876 MEAN 372 MAX 3,490 MIN 19 AC-FT 269,500 CFSM 3.54 INCHES 48.13

Peak discharge (base, 3,400 cfs).--Jan. 28 (0800 hrs) 4,020 cfs (7.05 ft).

14-1735. Calapooia River at Albany, Oreg.

Location.--Lat 44°37'15", long 123°07'40", in NW¼ sec.13, T.11 S., R.4 W., near right bank on downstream side of bridge on Riverside Drive at Albany, 0.6 mile downstream from Oak Creek, and at mile 3.0.

Drainage area.--372 sq mi.

Records available.--October 1940 to September 1967. Prior to Oct. 1, 1963, published as Calapooya River.

Gage.--Digital water-stage recorder. Datum of gage is 180.85 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to May 11, 1962, wire-weight gage or staff gage at same site and datum. May 12, 1962, to Oct. 30, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--27 years, 917 cfs (663,900 acre-ft per year).

Extremes.--Maximum discharge during year, 9,480 cfs Jan. 29 (gage height, 17.20 ft); minimum, 3.5 cfs Sept. 7.

1940-67: Maximum discharge observed, 32,700 cfs Dec. 22, 1955 (gage height, 22.12 ft); maximum gage height, 25.5 ft Jan. 2, 1943, from graph based on gage readings (backwater from Willamette River); minimum discharge, 3.5 cfs Sept. 7, 1967.

Remarks.--Records good. Higher flows are affected by backwater from Willamette River at times. Diurnal fluctuation caused by ponds at flour mills near Shedd. Diversions for irrigation of 2,200 acres above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	32	66	561	470	2,860	1,290	884	687	285	58	30	17
2	26	64	1,050	533	2,100	1,400	736	617	250	66	26	13
3	18	63	1,030	536	1,690	1,220	635	579	243	64	21	7.2
4	22	54	1,800	1,040	1,380	972	614	547	210	61	29	7.8
5	22	56	2,200	2,040	1,210	796	610	533	201	58	21	6.3
6	20	71	2,400	2,100	1,030	704	589	512	185	58	17	4.3
7	20	41	2,600	1,400	916	634	544	495	179	54	12	6.2
8	22	56	2,600	1,090	820	593	512	512	168	49	8.9	15
9	22	72	2,400	904	743	568	488	530	159	58	24	14
10	20	71	2,800	820	690	864	460	680	155	27	23	11
11	20	147	3,800	964	638	1,040	435	642	145	55	25	8.5
12	22	1,900	4,000	1,280	610	768	408	579	145	41	19	5.5
13	28	2,000	5,000	2,020	634	649	402	540	138	42	17	12
14	50	1,200	6,000	2,580	952	656	631	505	140	46	13	56
15	34	5,000	4,000	2,060	1,300	743	701	414	126	33	6.3	32
16	28	7,000	2,480	1,660	1,550	680	635	429	110	49	10	36
17	26	5,000	1,660	1,410	1,480	820	988	449	105	33	14	19
18	24	3,200	1,320	1,150	2,740	1,280	844	446	105	16	16	12
19	24	2,000	1,060	1,060	2,670	1,640	844	411	106	23	21	29
20	26	1,500	988	3,560	1,700	1,200	803	381	99	25	17	22
21	31	1,400	1,100	4,930	1,270	1,020	687	360	97	34	8.7	22
22	120	1,100	912	5,160	1,070	944	628	354	98	28	5.8	23
23	272	726	780	3,560	940	1,060	726	324	148	21	8.5	24
24	268	616	772	1,940	852	1,680	743	294	140	16	11	18
25	202	492	888	1,470	820	1,290	677	270	119	39	13	12
26	138	600	904	1,660	832	1,000	884	250	108	23	12	8.0
27	100	733	724	3,880	712	844	1,210	228	98	26	13	20
28	96	550	604	7,230	659	768	1,170	215	88	33	10	22
29	98	513	544	9,080	------	828	944	228	85	24	6.2	23
30	109	470	526	6,620	------	824	796	238	92	17	9.8	18
31	45	------	512	4,260	------	1,020	------	273	------	12	17	------
TOTAL	1,985	36,761	58,015	78,467	34,868	29,795	21,228	13,522	4,327	1,189	485.2	523.8
MEAN	64.0	1,225	1,871	2,531	1,245	961	708	436	144	38.4	15.7	17.5
MAX	272	7,000	6,000	9,080	2,860	1,680	1,210	687	285	66	30	56
MIN	18	41	512	470	610	568	402	215	85	12	5.8	4.3
CFSM	.17	3.29	5.03	6.80	3.35	2.58	1.90	1.17	.39	.10	.04	.05
IN.	.20	3.68	5.80	7.84	3.49	2.98	2.12	1.35	.43	.12	.05	.05
AC-FT	3,940	72,910	115,100	155,600	69,160	59,100	42,110	26,820	8,580	2,360	962	1,040

CAL YR 1966: TOTAL 323,666.1 MEAN 887 MAX 14,200 MIN 4.6 CFSM 2.38 IN 32.36 AC-FT 642,000
WAT YR 1967: TOTAL 281,166.0 MEAN 770 MAX 9,080 MIN 4.3 CFSM 2.07 IN 28.11 AC-FT 557,700

14-1740. Willamette River at Albany, Oreg.

Location.--Lat 44°38'20", long 123°06'20", in SW¼ sec.6, T.11 S., R.3 W., on right bank 5 ft upstream from bridge on U.S. Highway 20 (Ellsworth Street) in Albany, 0.2 mile downstream from Calapooia River, and at mile 119.31.

Drainage area.--4,840 sq mi, approximately.

Records available.--November 1878 to April 1888 (fragmentary), January to June 1892, November 1892 to September 1894, December 1894 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 167.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Sept. 27, 1906, staff gage at site 0.2 mile upstream at datum 5.0 ft higher. Sept. 27, 1906, to Nov. 13, 1934, staff gage at site 300 ft upstream at datum 5.0 ft higher. Nov. 14, 1934, to Sept. 30, 1962, graphic water-stage recorder at present site at datum 5.0 ft higher. Oct. 1, 1962, to Oct. 15, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--73 years (1893-94, 1895-1967), 14,430 cfs (10,450,000 acre-ft per year).

Extremes.--Maximum discharge during year, 63,000 cfs Jan. 29 (gage height, 20.02 ft); minimum, 4,350 cfs July 13.

1878-82, 1892-1967: Maximum discharge, 266,000 cfs Jan. 14, 1881 (gage height, 37.8 ft, present datum); minimum, 1,840 cfs Sept. 1, 2, 1940.

Maximum stage known, 41.0 ft Dec. 4, 1861 (discharge, 340,000 cfs, from rating curve extended above 220,000 cfs). Flood of Feb. 4, 1890, reached a stage of 38.9 ft (discharge, 291,000 cfs).

Remarks.--Records excellent. Flow regulated since 1941 by Fern Ridge Reservoir, since 1942 by Cottage Grove Reservoir, since 1949 by Dorena Reservoir, since 1953 by Lookout Point Reservoir, since 1961 by Hills Creek Reservoir, since 1963 by Smith River Reservoir and Cougar Reservoir and since Jan. 4, 1966 by Fall Creek Reservoir (see elsewhere in this report). Albany power canal diverts water from South Santiam River at Lebanon and discharges into Calapooia River near mouth; small diversions for irrigation and municipal water supply. Records of water temperatures for the water year 1967 at site 0.6 mile upstream are published as "Willamette River above Calapooia River, at Albany" in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4,610	8,130	18,400	9,890	45,900	10,200	10,300	10,700	9,060	5,070	4,830	4,880
2	6,270	7,580	19,400	10,400	46,000	11,300	9,780	9,590	8,960	4,960	4,830	5,170
3	7,230	7,310	17,400	10,500	42,600	11,500	9,170	8,760	8,170	4,930	4,790	5,390
4	7,360	5,680	17,700	12,700	37,100	11,200	8,860	8,190	7,610	4,910	4,720	5,480
5	7,810	5,150	31,700	18,000	29,400	10,000	8,820	8,030	7,200	4,800	4,740	5,480
6	8,090	5,210	39,700	20,200	24,100	9,240	8,740	7,880	6,630	5,020	4,770	5,390
7	8,210	6,730	39,900	18,800	20,900	8,820	8,450	7,760	6,540	4,880	4,760	5,570
8	8,110	7,460	42,200	17,800	18,500	8,530	8,170	7,790	6,230	4,930	4,720	5,720
9	8,080	8,160	38,700	16,300	14,400	8,340	7,970	8,060	6,100	5,050	4,730	5,580
10	8,320	8,410	34,300	15,300	11,200	9,500	7,860	9,330	5,790	5,070	4,720	5,410
11	6,940	10,100	36,000	14,500	10,200	11,100	7,330	9,880	5,420	5,070	4,730	5,610
12	6,730	17,400	36,800	17,300	9,700	10,100	7,060	9,580	5,260	4,890	4,720	6,330
13	6,850	20,900	40,600	21,400	9,440	9,550	6,810	9,270	5,140	4,710	4,680	6,390
14	6,970	18,900	42,800	28,900	10,400	9,810	7,850	9,000	5,210	4,850	4,650	5,950
15	6,880	28,900	44,400	28,700	11,600	11,500	8,020	8,670	5,130	4,880	4,660	5,880
16	6,720	38,600	41,900	25,200	13,100	11,300	7,960	8,440	5,110	4,900	4,600	5,820
17	6,560	38,700	36,700	22,500	13,700	11,500	9,060	8,380	4,970	4,820	4,610	5,750
18	6,420	33,300	29,500	20,100	22,000	13,300	9,210	8,920	4,890	4,970	4,590	5,940
19	6,120	31,200	25,700	18,500	25,100	15,700	9,500	8,590	5,010	4,890	4,640	5,910
20	6,040	30,600	23,100	26,400	20,600	15,100	9,370	8,420	5,020	4,890	4,450	5,840
21	6,750	30,000	20,700	40,700	16,900	13,800	8,730	8,400	4,950	4,810	4,500	5,830
22	7,980	26,900	18,000	48,300	14,200	13,100	8,140	8,620	5,080	4,780	4,630	5,680
23	9,570	23,500	16,200	43,600	12,400	13,200	8,910	8,440	5,720	4,830	4,570	5,640
24	9,610	22,600	14,500	35,600	11,500	15,500	9,300	8,630	6,750	4,760	4,620	5,780
25	8,680	21,500	14,100	29,300	10,900	15,000	8,520	9,010	6,090	4,690	4,630	5,670
26	8,720	21,600	14,300	28,400	10,800	13,700	9,660	9,580	5,990	4,690	4,650	5,690
27	8,750	24,100	13,600	37,100	10,200	12,400	11,400	9,800	5,410	4,840	4,610	5,760
28	8,860	23,800	12,600	53,500	9,620	10,900	12,600	9,120	4,700	4,880	4,660	5,790
29	8,950	21,800	11,700	61,100	------	10,500	12,400	8,060	4,900	4,720	4,740	5,800
30	8,590	19,400	10,800	54,200	------	10,400	11,600	8,210	5,050	4,830	4,640	5,980
31	7,990	------	10,400	44,200	------	10,800	------	8,540	------	4,830	4,690	------
TOTAL	234,770	573,620	813,800	849,390	532,460	356,890	271,550	271,650	178,090	151,150	144,880	171,110
MEAN	7,573	19,120	26,250	27,400	19,020	11,510	9,052	8,763	5,936	4,876	4,674	5,704
MAX	9,610	38,700	44,400	61,100	46,000	15,700	12,600	10,700	9,060	5,070	4,830	6,390
MIN	4,610	5,150	10,400	9,890	9,440	8,340	6,810	7,760	4,700	4,690	4,450	4,880
AC-FT	465,700	1,138M	1,614M	1,685M	1,056M	707,900	538,600	538,800	353,200	299,800	287,400	339,400

CAL YR 1966: TOTAL 5,068,680 MEAN 13,890 MAX 82,000 MIN 4,150 AC-FT 10,050,000
WAT YR 1967: TOTAL 4,549,360 MEAN 12,460 MAX 61,100 MIN 4,450 AC-FT 9,024,000

M Expressed in thousands

14-1780. North Santiam River below Boulder Creek, near Detroit, Oreg.

Location.--Lat 44°42'25", long 122°06'00", in SE¼NW¼ sec.17, T.10 S., R.6 E., on right bank 0.5 mile downstream from Boulder Creek, 3.0 miles southeast of Detroit, and at mile 70.7.

Drainage area.--216 sq mi.

Records available.--January 1907 to October 1909, October 1928 to September 1967. Monthly discharge only January 1907, published in WSP 1318. Prior to October 1952, published as "at Detroit."

Gage.--Digital water-stage recorder. Datum of gage is 1,590.07 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Jan. 24, 1907, to Oct. 31, 1909, staff gage at site 1 3/4 miles downstream and Oct. 1, 1928, to June 30, 1932, at site 2.5 miles downstream, at different datums. July 1, 1932, to Sept. 30, 1952, graphic water-stage recorder at site 2.0 miles downstream at datum 114.39 ft lower. Oct. 1, 1952 to Sept. 3, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--41 years, 996 cfs (721,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,480 cfs Jan. 28 (gage height, 6.99 ft); minimum, 330 cfs Sept. 25-28.

1907-9, 1928-67: Maximum discharge, 26,700 cfs Dec. 22, 1964 (gage height, 13.76 ft, temporary backwater from debris), from rating curve extended above 6,600 cfs on basis of slope-area measurement of peak flow; minimum, 250 cfs Sept. 13, 1909.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	364	413	906	812	1,810	840	762	647	1,210	724	435	370
2	381	405	867	761	1,560	836	740	650	1,260	708	430	370
3	368	396	822	950	1,390	797	735	698	1,220	700	425	360
4	362	387	932	1,060	1,270	768	747	762	1,250	668	420	360
5	359	403	954	1,010	1,190	748	744	826	1,300	639	420	360
6	357	440	920	945	1,110	734	723	900	1,270	604	420	360
7	360	410	915	870	1,050	726	733	1,010	1,220	584	415	355
8	360	400	840	826	1,010	719	762	1,190	1,150	572	410	355
9	356	411	811	797	970	767	745	1,420	1,070	554	410	350
10	354	484	1,390	786	940	759	745	1,350	1,010	548	415	365
11	355	898	1,640	922	920	714	731	1,170	971	542	410	455
12	384	1,570	2,810	945	892	685	732	1,070	956	548	410	400
13	395	1,050	4,200	1,390	921	672	781	1,020	960	542	405	370
14	375	2,360	3,390	1,520	884	655	760	1,050	956	515	405	355
15	367	3,360	2,340	1,560	878	653	727	1,160	992	505	400	355
16	363	2,490	1,890	1,570	859	710	720	1,430	1,040	500	400	355
17	361	1,710	1,620	1,360	954	756	696	1,760	1,070	495	405	355
18	358	1,330	1,450	1,200	1,090	812	688	1,780	1,060	490	405	360
19	355	1,240	1,350	1,280	997	776	663	1,750	1,060	480	400	355
20	483	1,480	1,320	1,620	937	832	648	1,890	1,210	475	400	350
21	468	1,250	1,230	1,390	893	898	636	2,080	1,130	475	390	350
22	685	1,070	1,130	1,200	860	976	638	2,130	1,160	470	385	350
23	721	944	1,050	1,080	836	1,280	654	1,990	996	470	385	340
24	585	857	1,000	1,010	817	1,210	663	1,710	919	470	375	340
25	517	906	990	956	800	1,090	691	1,480	895	465	375	335
26	502	977	911	1,220	773	1,010	707	1,350	881	455	375	335
27	503	866	854	2,700	753	942	702	1,320	857	450	375	335
28	464	824	819	4,180	768	898	673	1,380	808	445	380	335
29	441	783	818	3,750	------	862	654	1,500	781	450	380	365
30	434	808	793	3,010	------	832	647	1,450	755	440	375	410
31	422	------	757	2,220	------	794	------	1,280	------	440	370	------
TOTAL	13,159	30,922	41,719	44,900	28,132	25,751	21,247	41,203	31,417	16,423	12,405	10,810
MEAN	424	1,031	1,346	1,448	1,005	831	708	1,329	1,047	530	400	360
MAX	721	3,360	4,200	4,180	1,810	1,280	781	2,130	1,300	724	435	455
MIN	354	387	757	761	753	653	636	647	755	440	370	335
AC-FT	26,100	61,330	82,750	89,060	55,800	51,080	42,140	81,720	62,310	32,570	24,600	21,440
CFSM	1.96	4.77	6.23	6.70	4.65	3.85	3.28	6.15	4.85	2.45	1.85	1.67
IN	2.27	5.32	7.18	7.73	4.84	4.43	3.66	7.09	5.41	2.83	2.14	1.86

CAL YR 1966: TOTAL 344,368 MEAN 943 MAX 4,200 MIN 354 AC-FT 683,000 CFSM 4.37 INCHES 59.29
WAT YR 1967: TOTAL 318,088 MEAN 871 MAX 4,200 MIN 335 AC-FT 630,900 CFSM 4.03 INCHES 54.77

Peak discharge (base, 3,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	0900	6.61	3,720				
12-13	1130	6.94	4,380				
1-28	0900	6.99	4,480				

14-1790. Breitenbush River above Canyon Creek, near Detroit, Oreg.

Location.--Lat 44°45'10", long 122°07'40", in SE¼NE¼ sec.36, T.9 S., R.5 E., on left bank 600 ft upstream from Canyon Creek, 1.5 miles northeast of Detroit, and at mile 2.0.

Drainage area.--106 sq mi.

Records available.--June 1932 to September 1967. Monthly discharge only June 1932, published in WSP 1318. Prior to October 1952, published as "above French Creek, near Detroit."

Gage.--Digital water-stage recorder. Datum of gage is 1,573.95 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1952, graphic water-stage recorder at site 0.2 mile downstream at datum 13.46 ft lower. Oct. 1, 1952 to Sept. 3, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--35 years, 567 cfs (410,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,510 cfs Jan. 28 (gage height, 7.79 ft); minimum, 114 cfs Sept. 26-29.

1932-67: Maximum discharge, 16,900 cfs Dec. 22, 1964 (gage height, 14.55 ft); minimum, 87 cfs Sept. 2, 1940.

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	128	178	531	510	1,200	505	376	303	540	353	159	123
2	129	167	493	480	1,000	495	367	303	616	358	155	123
3	127	160	450	832	865	450	371	331	592	349	155	123
4	126	154	543	909	774	415	380	376	658	327	150	121
5	126	163	569	755	718	395	367	420	712	307	148	121
6	124	193	552	642	682	385	349	495	676	295	146	121
7	126	171	532	540	634	380	353	575	646	271	146	121
8	126	162	454	490	575	371	371	736	592	267	144	120
9	125	167	431	465	550	400	353	893	530	254	142	120
10	124	235	1,140	445	530	380	349	748	480	247	142	123
11	124	919	1,300	648	515	353	335	604	460	247	140	166
12	140	1,320	2,280	678	495	335	340	525	440	254	140	148
13	141	689	3,300	1,260	515	327	376	490	470	250	137	133
14	135	2,090	2,440	1,300	490	315	358	515	485	234	135	127
15	131	2,390	1,540	1,320	465	319	335	628	535	222	135	125
16	130	1,600	1,190	1,250	445	380	331	879	575	216	135	123
17	129	1,050	990	960	634	445	319	1,110	598	214	133	121
18	128	756	869	782	858	515	319	1,050	586	208	133	123
19	128	709	811	860	658	470	303	988	586	205	131	121
20	222	842	794	1,230	565	520	299	1,090	670	196	131	121
21	197	684	710	928	525	565	295	1,210	604	191	131	120
22	467	560	628	735	485	616	307	1,240	575	189	129	118
23	535	479	565	626	465	830	323	1,100	465	186	129	118
24	391	421	527	553	450	754	335	879	455	183	129	116
25	297	490	517	510	430	658	353	712	460	178	127	116
26	273	568	470	808	415	580	367	622	470	173	127	116
27	263	476	431	2,430	390	525	371	622	475	171	127	116
28	218	430	407	4,000	430	485	344	688	410	166	127	114
29	197	394	421	3,180	------	455	323	754	390	164	127	131
30	200	428	420	2,260	------	425	311	676	362	162	125	162
31	190	------	396	1,510	------	400	------	565	------	162	125	------
TOTAL	5,897	19,045	26,701	33,896	16,758	14,448	10,280	22,127	16,113	7,199	4,240	3,751
MEAN	190	635	861	1,093	599	466	343	714	537	232	137	125
MAX	535	2,390	3,300	4,000	1,200	830	380	1,240	712	358	159	166
MIN	124	154	396	445	390	315	295	303	362	162	125	114
AC-FT	11,700	37,780	52,960	67,230	33,240	28,660	20,390	43,890	31,960	14,280	8,410	7,440
CFSM	1.79	5.99	8.12	10.3	5.65	4.40	3.24	6.74	5.07	2.19	1.29	1.18
IN	2.07	6.68	9.37	11.89	5.88	5.07	3.61	7.76	5.65	2.53	1.49	1.32

CAL YR 1966: TOTAL 196,928 MEAN 540 MAX 3,300 MIN 124 AC-FT 390,600 CFSM 5.09 INCHES 69.09
WAT YR 1967: TOTAL 180,455 MEAN 494 MAX 4,000 MIN 114 AC-FT 357,900 CFSM 4.66 INCHES 63.31

Peak discharge (base, 4,000 cfs).--Jan. 28 (0900 hrs) 4,510 cfs (7.79 ft).

14-1805. Detroit Reservoir near Detroit, Oreg.

Location.--Lat 44°43'20", long 122°14'55", in SW¼NW¼ sec.7, T.10 S., R.5 E., in control house near right abutment of Detroit Dam on North Santiam River, 4.9 miles west of Detroit, and at mile 60.9.

Drainage area.--437 sq mi.

Records available.--January 1953 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 444,800 acre-ft June 23 (elevation, 1,566.10 ft); minimum, 150,100 acre-ft Dec. 27 (elevation, 1,447.10 ft).

1953-67: Maximum contents, 457,500 acre-ft June 17, 1960 (elevation, 1,569.74 ft); minimum since first filling 137,500 acre-ft Jan. 31, 1957 (elevation, 1,439.70 ft).

Remarks.--Reservoir is formed by concrete, gravity-type dam with six 42- by 28-foot control gates. Length of dam is 1,580 ft; built by Corps of Engineers. Storage began in January 1953. Total capacity is 454,900 acre-ft and usable capacity is 340,200 acre-ft between elevations 1,425.0 (proposed lower limit of operation) and 1,569.0 ft (top of spillway gates). Reservoir used for flood control, power development, irrigation, improvement of navigation, pollution abatement, and other purposes. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,447	149,900	1,490	231,800	1,540	359,600
1,450	155,000	1,500	254,500	1,550	391,000
1,460	172,600	1,510	278,800	1,560	424,000
1,470	191,000	1,520	304,200	1,570	458,400
1,480	210,600	1,530	330,800		

Contents, in acre-feet, at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	348,000	267,100	154,000	152,000	232,700	250,800	304,300	336,800	417,100	439,700	419,300	381,800
2	345,100	262,800	153,500	152,200	230,700	252,600	305,600	337,700	417,900	439,700	418,300	380,600
3	342,100	258,400	153,200	154,800	227,800	253,400	306,700	338,800	419,500	439,600	417,300	378,900
4	338,900	253,900	153,900	156,700	224,300	254,200	308,000	340,100	421,200	439,500	416,100	377,400
5	335,800	249,700	154,800	156,600	220,400	255,600	309,200	341,700	423,200	439,300	415,000	375,800
6	332,800	245,700	155,400	156,100	215,900	256,900	310,300	344,000	423,500	439,000	416,100	373,900
7	329,500	242,700	154,200	155,800	211,200	258,100	311,200	346,900	423,700	438,600	413,100	371,900
8	326,600	239,700	153,600	155,100	209,200	257,900	312,400	350,700	424,700	438,100	412,100	369,900
9	323,700	236,800	154,000	154,200	208,500	258,000	313,500	355,500	425,400	437,600	410,900	368,100
10	320,000	234,600	158,100	154,300	210,200	259,400	314,600	359,600	427,000	437,100	410,000	366,300
11	317,800	236,200	162,300	155,700	212,100	260,600	316,100	363,200	428,500	436,500	408,800	364,800
12	315,200	240,300	172,400	155,600	214,500	261,200	317,200	365,200	428,800	435,900	407,700	363,100
13	312,500	240,700	186,600	160,400	217,000	259,600	318,800	367,600	430,200	435,400	406,500	361,300
14	309,600	251,900	190,400	164,500	218,600	260,400	320,100	370,000	431,500	434,700	405,400	359,400
15	306,600	269,900	182,600	168,400	218,400	261,400	321,400	373,000	433,100	434,100	404,200	357,400
16	303,600	276,200	176,100	171,700	220,000	262,800	322,600	377,500	434,500	433,400	403,000	355,400
17	299,600	275,700	173,800	173,300	223,200	264,800	323,500	383,500	436,300	432,500	401,900	353,600
18	297,900	273,000	170,700	173,700	228,100	266,800	323,900	389,200	438,000	431,800	400,700	351,700
19	296,200	270,000	166,900	172,300	231,500	269,200	324,600	394,500	439,200	431,000	399,500	349,800
20	295,300	267,700	163,000	171,500	233,900	271,800	325,400	400,300	441,700	430,200	398,400	347,800
21	292,600	263,300	158,500	168,500	236,900	274,600	326,100	406,900	443,400	429,400	397,200	345,800
22	291,600	251,500	154,800	163,900	238,700	277,800	327,100	413,400	444,100	428,500	395,900	343,900
23	290,800	235,900	154,200	158,400	240,400	282,500	328,200	418,200	442,600	427,700	394,200	341,900
24	288,800	219,500	153,400	156,000	242,100	286,800	329,300	420,300	439,900	426,800	393,000	339,800
25	288,700	204,000	152,700	156,000	243,700	290,200	331,300	420,200	439,500	425,900	391,800	337,800
26	289,400	189,000	151,400	159,600	245,000	293,200	333,100	419,200	440,200	425,000	390,500	335,800
27	288,000	172,800	150,500	176,900	246,300	295,700	334,200	418,300	440,400	424,100	389,400	333,700
28	284,000	162,000	150,400	202,700	248,400	297,900	334,100	417,700	440,400	423,200	387,500	331,700
29	280,000	157,400	152,700	223,200	----------	299,900	335,100	417,700	439,500	422,200	385,700	330,000
30	275,600	155,200	151,400	231,800	----------	301,600	336,000	418,100	439,700	421,200	384,500	328,500
31	271,300	----------	151,300	233,400	----------	303,000	----------	417,300	----------	420,300	383,300	----------
Max	348,000	276,200	190,400	233,400	248,400	303,000	336,000	420,300	444,100	439,700	419,300	381,800
Min	271,300	155,200	150,400	152,000	208,500	250,800	304,300	336,800	417,100	420,300	383,300	328,500
(†)	1,507.01	1,450.14	1,447.84	1,490.72	1,497.36	1,519.55	1,531.84	1,558.00	1,564.61	1,558.90	1,547.59	1,529.18
(‡)	-79,900	-116,100	-3,900	+82,100	+15,000	+54,600	+33,000	+81,300	+22,400	-19,400	-37,000	-54,800

Cal yr 1966: Max 432,600 Min 151,300 Ac-ft ‡ -1,500
Wtr yr 1967: Max 444,100 Min 151,300 Ac-ft ‡ -22,700

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1815. North Santiam River at Niagara, Oreg.

Location.--Lat 44°45'10", long 122°17'50", in NE¼NE¼ sec.34, T.9 S., R.4 E., on left bank 0.1 mile downstream from Little Sardine Creek, 0.8 mile downstream from Big Cliff Dam, 2.1 miles east of Niagara, and at mile 57.3.

Drainage area.--453 sq mi.

Records available.--December 1908 to January 1920, October 1921 to March 1922, October 1938 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as North Fork of Santiam River near Niagara prior to October 1913, and as "above Mayflower Creek, near Detroit" October 1938 to September 1952.

Gage.--Digital water-stage recorder. Datum of gage is 1,093.78 ft above mean sea level (Bureau of Public Roads bench mark). Dec. 1, 1908, to May 31, 1922, staff gage at site 2.5 miles downstream at different datum. Oct. 1, 1938, to Nov. 16, 1939, staff gage and Nov. 17, 1939, to Sept. 30, 1952, graphic water-stage recorder, at various sites and datums about 3.5 miles upstream. Oct. 1, 1952, to Sept. 7, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--39 years (1909-19, 1938-67), 2,319 cfs 1,679,000 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 10,500 cfs Nov. 25 (gage height, 7.82 ft); minimum, 178 cfs Mar. 28; minimum daily, 847 cfs Mar. 28.
1908-22, 1938-67: Maximum discharge, 63,200 cfs Nov. 22, 1909 (gage height, 16.4 ft, from floodmark, site and datum then in use), from rating curve extended above 35,000 cfs; minimum, 19 cfs Aug. 21, 1963; minimum daily, 430 cfs Sept. 23-25, 1915.

Remarks.--Records excellent. Flow completely regulated since 1953 by Detroit Reservoir (see sta. no. 1805) and Big Cliff Reservoir (usable capacity for reregulating purposes, 2,930 acre-ft). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,050	2,890	2,760	1,780	4,900	1,050	970	924	2,850	1,070	1,140	1,190
2	2,090	2,880	2,320	1,700	4,720	1,190	971	960	1,500	1,160	1,140	1,110
3	2,080	2,870	2,080	1,680	4,700	1,130	980	931	1,450	1,100	1,150	1,270
4	2,130	2,910	2,220	2,600	4,640	1,040	983	984	1,380	1,120	1,130	1,230
5	1,970	2,910	2,170	2,760	4,900	939	1,040	1,030	1,440	1,120	1,140	1,310
6	2,130	2,920	2,180	2,740	5,020	943	1,040	957	2,010	1,120	1,120	1,450
7	2,180	2,330	2,870	2,270	4,760	949	1,000	1,000	2,200	1,110	1,080	1,470
8	1,970	2,170	2,580	2,290	3,180	1,320	986	974	1,590	1,110	1,140	1,500
9	2,090	2,370	1,750	2,280	1,990	1,880	1,010	956	1,460	1,140	1,140	1,470
10	2,000	2,410	2,370	1,730	978	1,300	1,010	949	978	1,140	1,160	1,480
11	1,990	2,980	3,110	1,980	946	965	930	984	897	1,030	1,150	1,450
12	2,030	3,190	4,160	2,820	970	934	874	925	1,370	1,190	1,120	1,420
13	2,050	3,090	5,810	3,150	1,090	1,740	906	942	1,010	1,190	1,100	1,460
14	2,070	3,150	7,380	3,250	1,070	1,430	967	918	1,000	1,080	1,170	1,420
15	2,070	1,960	9,910	3,180	1,120	935	997	923	1,010	1,130	1,160	1,480
16	2,140	3,250	8,000	3,140	1,130	956	997	984	934	1,120	1,140	1,500
17	2,140	4,720	4,950	2,840	1,250	1,050	938	1,060	983	1,130	1,110	1,480
18	1,760	4,570	4,970	2,800	1,310	1,050	1,050	1,020	954	1,120	1,150	1,480
19	1,500	4,620	5,020	4,010	1,020	1,040	1,030	949	951	1,180	1,150	1,510
20	1,650	4,640	5,000	5,340	1,010	996	947	937	981	1,160	1,130	1,480
21	2,330	5,070	5,040	5,240	1,040	971	933	1,040	989	1,060	1,130	1,480
22	2,700	8,280	4,290	5,260	1,020	986	948	938	1,410	1,060	1,130	1,530
23	2,740	9,900	2,560	5,280	1,040	1,190	978	1,170	2,630	1,120	1,400	1,510
24	2,720	10,100	2,560	3,770	1,050	1,080	980	2,050	2,940	1,140	1,110	1,520
25	955	10,300	2,580	2,200	1,040	1,000	957	3,020	1,580	1,140	1,150	1,480
26	967	10,300	2,590	1,910	1,000	942	1,050	2,870	1,320	1,140	1,160	1,480
27	1,660	10,300	2,250	1,530	1,040	954	1,100	2,900	1,190	1,140	1,160	1,490
28	2,850	7,260	1,730	1,000	976	847	1,060	2,890	1,290	1,140	1,340	1,510
29	2,930	4,160	1,460	994	------	1,010	962	2,930	1,640	1,140	1,420	1,570
30	2,930	2,900	1,570	3,280	------	976	946	2,640	1,140	1,100	1,130	1,490
31	2,960	------	1,680	4,940	------	966	------	2,780	------	1,120	1,220	------
TOTAL	65,832	141,400	109,920	89,764	59,110	33,759	29,540	44,535	43,077	34,840	36,070	43,120
MEAN	2,124	4,713	3,546	2,896	2,111	1,089	985	1,437	1,436	1,124	1,164	1,437
MAX	2,960	10,300	9,910	5,340	5,020	1,880	1,100	3,020	2,940	1,190	1,420	1,570
MIN	955	1,960	1,460	994	946	847	874	918	897	1,030	1,080	1,110
AC-FT	130,600	280,500	218,000	178,000	117,200	66,960	58,590	88,330	85,440	69,100	71,540	85,530

Adjusted for change in contents in Detroit Reservoir

Mean	825	2,763	3,482	4,230	2,380	1,978	1,539	2,758	1,812	808	562	516
Cfsm	1.82	6.10	7.69	9.34	5.25	4.37	3.40	6.09	4.00	1.78	1.24	1.14
In.	2.10	6.80	8.86	10.77	5.47	5.03	3.79	7.02	4.46	2.06	1.43	1.27
Ac-ft	50,700	164,400	214,100	260,100	132,200	121,600	91,590	169,600	107,800	49,700	34,540	30,730

Observed

Cal yr 1966: Total 800,334 Mean 2,193 Max 10,300 Min 853 Ac-ft 1,587,000
Wat yr 1967: Total 730,967 Mean 2,003 Max 10,300 Min 847 Ac-ft 1,450,000

Adjusted

Cal yr 1966: Mean 2,191 Cfsm 4.84 In. 65.65 Ac-ft 1,586,000
Wat yr 1967: Mean 1,971 Cfsm 4.35 In. 59.06 Ac-ft 1,427,000

14-1825. Little North Santiam River near Mehama, Oreg.

Location.--Lat 44°47'30", long 122°34'40", in NW¼ sec.16, T.9 S., R.2 E., on left bank 2.0 miles east of Mehama and at mile 2.0.

Drainage area.--112 sq mi at cableway 1.2 miles downstream where all discharge measurements are made.

Records available.--October 1931 to September 1967. Records for July to September 1931 at site 4 miles upstream not equivalent owing to difference in drainage areas.

Gage.--Digital water-stage recorder. Datum of gage is 655.41 ft above mean sea level, datum of 1929. Prior to June 11, 1948, staff or wire-weight gages at about same site and datum. June 12, 1948, to Oct. 15, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--36 years, 768 cfs (556,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,230 cfs Jan. 27 (gage height, 9.45 ft); minimum, 25 cfs Sept. 29.

1931-67: Maximum discharge, 36,000 cfs Dec. 22, 1964 (gage height, 16.73 ft), from rating curve extended above 17,000 cfs by logarithmic plotting; minimum, 13 cfs Aug. 30, 1961.

Remarks.--Records excellent. No regulation or diversion above station. Records herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	141	670	1,110	1,390	837	472	418	535	100	42	31
2	43	127	664	964	1,250	774	472	404	580	94	41	30
3	45	115	646	1,900	1,040	646	500	440	515	89	39	30
4	41	106	956	2,050	916	575	560	515	495	85	39	30
5	38	113	1,290	1,570	830	525	545	570	500	81	39	29
6	37	275	1,330	1,200	718	505	490	712	467	78	39	29
7	39	231	1,210	980	624	500	481	872	404	74	40	29
8	41	192	964	781	565	472	535	1,050	338	72	40	29
9	43	189	837	712	525	585	500	1,180	296	70	39	29
10	41	718	2,630	788	495	570	458	893	265	68	39	31
11	38	2,750	2,530	1,570	476	490	431	676	244	65	39	60
12	43	4,060	3,680	1,750	454	440	413	565	231	63	37	75
13	79	1,810	5,110	4,550	505	418	607	500	237	60	36	46
14	64	4,540	3,280	2,850	481	395	618	525	251	59	32	39
15	56	4,640	1,960	2,640	485	409	555	682	268	57	31	35
16	50	3,020	1,500	2,390	590	613	540	1,020	272	55	32	33
17	48	2,090	1,200	1,720	2,120	872	495	1,220	265	54	36	31
18	46	1,410	1,000	1,260	2,870	1,110	490	1,020	240	53	35	32
19	45	1,130	886	1,120	1,580	872	458	908	216	52	33	31
20	207	1,190	956	2,180	1,170	767	436	1,020	210	51	34	31
21	372	916	816	1,580	916	816	431	1,080	213	50	33	30
22	1,880	718	670	1,190	774	879	449	996	289	49	33	29
23	1,580	591	585	940	706	1,250	530	823	228	48	35	28
24	916	495	580	788	664	1,080	545	607	179	46	39	27
25	515	652	748	694	664	858	629	476	159	45	37	27
26	364	1,050	664	2,630	607	736	682	413	147	44	31	27
27	342	742	560	4,880	560	640	652	409	134	43	31	26
28	251	602	505	5,320	618	591	565	440	123	42	31	26
29	197	510	545	3,410	------	560	495	607	115	41	30	30
30	184	550	640	2,420	------	525	449	795	107	41	35	58
31	159	------	591	1,820	------	495	------	712	------	42	32	------
TOTAL	7,844	35,673	40,203	59,757	24,593	20,805	15,483	22,548	8,523	1,871	1,109	1,018
MEAN	253	1,189	1,297	1,928	878	671	516	727	284	60.4	35.8	33.9
MAX	1,880	4,640	5,110	5,320	2,870	1,250	682	1,220	580	100	42	75
MIN	37	106	505	694	454	395	413	404	107	41	30	26
CFSM	2.26	10.6	11.6	17.2	7.84	5.99	4.61	6.49	2.54	.54	.32	.30
IN.	2.60	11.8	13.3	19.8	8.17	6.91	5.14	7.49	2.83	.62	.37	.34
AC-FT	15,560	70,760	79,740	118,500	48,780	41,270	30,710	44,720	16,910	3,710	2,200	2,020

CAL YR 1966: TOTAL 247,686 MEAN 679 MAX 5,490 MIN 34 CFSM 6.06 IN 82.25 AC-FT 491,300
WAT YR 1967: TOTAL 239,427 MEAN 656 MAX 5,320 MIN 26 CFSM 5.86 IN 79.50 AC-FT 474,900

Peak discharge (base, 8,200 cfs).--No peak above base.

14-1830. North Santiam River at Mehama, Oreg.

Location.--Lat 44°47'20", long 122°37'00", in NW¼ sec.18, T.9 S., R. 2 E., on right bank 300 ft downstream from highway bridge at Mehama, 0.5 mile downstream from Little North Santiam River, and at mile 38.71.

Drainage area.--655 sq mi at cableway 0.8 mile downstream, where all discharge measurements are made.

Records available.--July 1905 to March 1907, October 1910 to September 1914, September 1921 to September 1967. Monthly discharge only September 1921, published in WSP 1318. Prior to October 1913, published as North Fork of Santiam River at Mehama.

Gage.--Digital water-stage recorder. Datum of gage is 602.49 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 15, 1933, staff gage at site 100 ft upstream at same datum. June 16, 1953, to Sept. 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--51 years (1905-6, 1910-14, 1921-67), 3,321 cfs (2,404,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,800 cfs Dec. 14 (gage height, 7.34 ft); minimum, 854 cfs Oct. 25; minimum daily, 1,140 cfs Aug. 7.

1905-7, 1910-14, 1921-67: Maximum discharge, 76,600 cfs Dec. 28, 1945 (gage height, 15.37 ft), from rating curve extended above 36,000 cfs on basis of slope-area measurement of peak flow; maximum gage height, 17.5 ft Nov. 20, 1921, from graph based on gage readings, and Jan. 6, 1923, from floodmark, at site then in use; minimum discharge, 256 cfs July 19, 1965; minimum daily, 420 cfs Sept. 18, 1924.

Remarks.--Records excellent. Flow regulated since 1953 by Detroit Reservoir (see sta. no. 1805) and Big Cliff Reservoir (usable capacity for reregulating purposes, 2,930 acre-ft). No diversion above station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2,050	2,990	3,750	5,130	7,140	2,240	1,800	1,640	3,580	1,240	1,250	1,320
2	2,090	2,930	3,400	2,940	6,690	2,390	1,780	1,640	2,480	1,410	1,240	1,190
3	2,090	2,950	3,010	4,020	6,350	2,170	1,800	1,650	2,160	1,290	1,240	1,280
4	2,110	2,920	3,860	4,910	6,230	1,990	1,860	1,740	2,060	1,310	1,220	1,360
5	1,980	2,980	4,540	4,750	6,230	1,830	1,870	1,860	2,140	1,330	1,240	1,330
6	2,110	3,160	4,340	4,340	6,070	1,770	1,820	1,980	2,490	1,310	1,240	1,530
7	2,180	2,650	4,750	3,720	5,840	1,750	1,770	2,110	2,710	1,300	1,140	1,550
8	1,980	2,430	4,270	3,550	4,500	1,780	1,770	2,310	2,220	1,290	1,230	1,570
9	2,080	2,560	3,290	3,410	3,090	2,780	1,770	2,470	1,920	1,300	1,230	1,550
10	2,000	3,150	5,790	2,980	1,810	2,490	1,710	2,170	1,510	1,310	1,250	1,500
11	1,980	5,970	6,690	3,890	1,720	1,790	1,820	1,950	1,310	1,210	1,250	1,580
12	2,060	7,880	9,090	4,650	1,680	1,680	1,510	1,750	1,660	1,330	1,210	1,570
13	2,100	5,070	13,100	9,180	1,920	2,220	1,820	1,690	1,460	1,330	1,190	1,600
14	2,160	9,250	11,900	7,840	1,880	2,340	1,920	1,690	1,400	1,260	1,240	1,520
15	2,050	8,710	12,900	6,840	1,990	1,660	1,890	1,830	1,430	1,270	1,230	1,540
16	2,130	6,960	11,000	6,370	2,120	1,920	1,930	2,230	1,350	1,260	1,230	1,580
17	2,150	7,400	6,770	5,100	3,930	2,330	1,790	2,500	1,390	1,270	1,200	1,570
18	1,890	6,240	6,490	4,530	5,200	2,670	1,880	2,310	1,360	1,260	1,230	1,500
19	1,550	5,970	6,380	5,360	3,280	2,420	1,820	2,110	1,280	1,290	1,230	1,570
20	1,820	6,020	6,430	8,850	2,640	2,240	1,710	2,180	1,340	1,320	1,210	1,570
21	2,610	5,940	6,290	8,050	2,420	2,240	1,640	2,340	1,350	1,200	1,200	1,550
22	4,460	8,650	5,630	7,410	2,210	2,290	1,700	2,150	1,740	1,190	1,200	1,590
23	4,230	10,500	3,580	7,030	2,160	2,920	1,860	2,080	2,820	1,220	1,480	1,590
24	3,570	10,600	3,450	5,470	2,060	2,690	1,850	2,690	3,200	1,260	1,170	1,600
25	1,840	11,100	3,770	3,670	2,050	2,340	1,950	3,580	2,140	1,260	1,210	1,550
26	1,340	11,700	3,640	4,210	1,930	2,160	2,080	3,440	1,700	1,260	1,250	1,550
27	1,900	11,400	3,270	8,570	1,880	2,030	2,150	3,450	1,450	1,250	1,250	1,550
28	2,880	8,790	2,610	9,720	1,920	1,860	2,000	3,460	1,510	1,250	1,350	1,580
29	3,090	5,260	2,370	6,680	------	1,970	1,790	3,730	1,960	1,240	1,510	1,650
30	3,070	3,690	2,500	6,840	------	1,920	1,710	3,660	1,400	1,230	1,250	1,640
31	3,060	------	2,550	7,820	------	1,860	------	3,680	------	1,210	1,250	------
TOTAL	72,610	185,820	171,410	175,850	96,900	66,740	54,570	74,070	56,520	39,470	38,580	45,770
MEAN	2,342	6,194	5,529	5,673	3,461	2,153	1,819	2,389	1,884	1,273	1,245	1,526
MAX	4,460	11,700	13,100	9,720	7,140	2,920	2,150	3,730	3,580	1,410	1,510	1,650
MIN	1,340	2,430	2,370	2,940	1,680	1,660	1,510	1,640	1,280	1,190	1,140	1,190
AC-FT	144,000	368,600	340,000	348,800	192,200	132,400	108,200	146,900	112,100	78,290	76,520	90,780

CAL YR 1966: TOTAL 1,148,473 MEAN 3,147 MAX 13,100 MIN 920 AC-FT 2,278,000
WAT YR 1967: TOTAL 1,078,310 MEAN 2,954 MAX 13,100 MIN 1,140 AC-FT 2,139,000

14-1850. South Santiam River below Cascadia, Oreg.

Location.--Lat 44°23'35", long 122°30'35", in SE¼ sec.36, T.13 S., R.2 E., on right bank 100 ft downstream from bridge at Cascadia ranger station, 0.5 mile downstream from Mouse Creek, 0.5 mile upstream from Deer Creek, 1.5 miles southwest of Cascadia, and at mile 48.5.

Drainage area.--174 sq mi at gaging cable 0.7 mile upstream.

Records available.--September 1935 to September 1967. Monthly discharge only September 1935, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 759.88 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 1, 1935, staff gage, and Nov. 1, 1935, to Oct. 15, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 817 cfs (591,500 acre-ft per year).

Extremes.--Maximum discharge during year, 7,510 cfs Jan. 28 (gage height, 9.81 ft); minimum, 39 cfs Sept. 28, 29.

1935-67: Maximum discharge, 27,600 cfs Dec. 22, 1964 (gage height, 19.68 ft), from rating curve extended above 14,000 cfs by logarithmic plotting; minimum, 23 cfs Dec. 1, 2, 1936.

Remarks.--Records good. No regulation or diversion above station. Records herein are for measuring site. Records of water temperatures for the water year 1967 are published in Part 2 of this report. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	154	752	924	1,730	836	605	605	585	164	63	42
2	53	143	717	889	1,460	862	590	580	615	154	61	42
3	56	135	642	1,450	1,240	758	580	590	575	144	61	41
4	51	128	1,180	1,920	1,080	669	595	630	580	137	58	41
5	47	137	1,510	1,510	972	613	585	668	585	130	58	41
6	46	200	1,380	1,270	860	573	545	740	550	123	58	41
7	47	164	1,300	1,140	768	544	530	860	505	118	58	41
8	50	157	1,050	1,000	705	522	550	1,030	455	114	57	40
9	51	162	979	971	659	552	525	1,290	419	110	55	40
10	48	530	2,630	1,090	624	552	505	1,120	387	106	54	42
11	46	2,320	2,670	1,800	592	511	478	914	366	102	53	149
12	66	2,490	4,290	1,740	562	483	464	830	370	100	53	119
13	130	1,410	4,700	4,610	580	471	530	752	366	97	51	66
14	90	5,390	3,750	3,510	557	456	525	752	359	93	50	54
15	76	6,370	2,400	2,700	564	466	491	860	366	90	49	49
16	69	4,340	1,830	2,370	729	692	500	1,110	366	88	48	46
17	64	2,370	1,500	1,840	2,220	875	496	1,310	363	86	48	45
18	60	1,480	1,290	1,490	2,610	1,170	535	1,220	342	84	47	47
19	58	1,280	1,140	1,440	1,510	1,030	540	1,140	324	82	47	47
20	245	1,440	1,120	2,560	1,120	990	520	1,180	312	80	46	45
21	293	1,110	1,000	2,150	921	1,070	496	1,220	309	78	45	44
22	1,180	871	890	1,600	812	1,100	535	1,170	318	77	45	43
23	846	707	816	1,300	760	1,430	668	1,030	285	76	45	42
24	503	606	777	1,130	730	1,290	686	848	255	74	44	41
25	346	757	914	1,020	720	1,100	812	704	240	73	44	41
26	293	1,150	834	2,000	652	953	920	635	227	72	44	40
27	297	852	742	4,890	608	830	920	620	213	70	44	39
28	237	708	684	6,400	632	764	788	640	199	69	43	39
29	205	613	711	4,550	------	698	698	716	187	67	42	55
30	184	587	783	3,210	------	662	645	752	175	66	42	103
31	167	------	702	2,300	------	640	------	668	------	64	42	------
TOTAL	5,952	38,761	45,683	66,774	26,977	24,162	17,857	27,184	11,198	2,988	1,555	1,565
MEAN	192	1,292	1,474	2,154	963	779	595	877	373	96.4	50.2	52.2
MAX	1,180	6,370	4,700	6,400	2,610	1,430	920	1,310	615	164	63	149
MIN	46	128	642	889	557	456	464	580	175	64	42	39
AC-FT	11,810	76,880	90,610	132,400	53,510	47,920	35,420	53,920	22,210	5,930	3,080	3,100
CFSM	1.10	7.43	8.47	12.4	5.53	4.48	3.42	5.04	2.14	.554	.289	.300
IN	1.27	8.28	9.76	14.27	5.77	5.16	3.82	5.81	2.39	.64	.33	.33

CAL YR 1966: TOTAL 285,748 MEAN 783 MAX 8,480 MIN 42 AC-FT 566,800 CFSM 4.50 INCHES 61.07
WAT YR 1967: TOTAL 270,656 MEAN 742 MAX 6,400 MIN 39 AC-FT 536,800 CFSM 4.26 INCHES 57.85

Peak discharge (base, 5,700 cfs).--Nov. 15 (0900 hrs) 7,490 cfs (9.86 ft); Jan. 28 (0900 hrs), 7,510 cfs (9.81 ft).

14-1858. Middle Santiam River near Cascadia, Oreg.

Location.--Lat 44°30'55", long 122°22'15", in NE¼ sec.19, T.12 S., R.4 E., on right bank 5.6 miles downstream from Bear Creek, 10 miles northeast of Cascadia, and at mile 17.5.

Drainage area.--104 sq mi.

Records available.--August 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,040 ft (from topographic map). Aug. 14, 1963 to June 8, 1964, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 4,980 cfs Jan. 28 (gage height, 7.70 ft); minimum, 33 cfs Sept. 28, 29.

1963-67: Maximum discharge, 22,900 cfs Dec. 22, 1964 (gage height, 15.75 ft, from floodmark), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; minimum, 33 cfs Sept. 28, 29, 1967.

Remarks.--Records excellent except those for period of no gage-height record, which are good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	144	564	640	1,300	675	432	366	524	140	62	40
2	50	135	528	560	1,130	640	422	366	520	134	60	40
3	47	128	488	1,330	955	560	432	404	492	129	58	40
4	42	122	640	1,400	842	512	450	460	492	122	57	40
5	40	131	704	1,080	764	476	446	512	488	119	56	40
6	38	175	698	860	675	457	422	590	457	113	56	40
7	40	147	704	698	615	450	422	722	422	110	56	40
8	42	140	585	605	568	436	446	902	387	110	55	40
9	41	143	576	568	544	488	425	1,100	352	108	55	40
10	39	392	1,630	580	524	464	415	934	325	105	50	46
11	38	1,670	1,730	1,000	500	418	401	746	307	102	50	110
12	61	2,040	2,660	969	480	390	397	640	301	97	50	80
13	90	1,090	3,610	2,350	492	376	464	585	304	94	48	60
14	66	2,860	2,800	2,030	464	352	436	605	301	91	48	45
15	58	3,570	1,850	1,820	460	346	404	746	304	88	48	42
16	54	2,550	1,450	1,700	504	460	397	1,010	304	86	48	40
17	52	1,660	1,210	1,320	1,170	556	376	1,200	298	84	46	40
18	49	1,180	1,040	1,050	1,420	692	373	1,120	277	81	46	42
19	48	1,040	920	1,000	969	580	355	1,050	260	80	46	41
20	183	1,090	902	1,540	770	610	349	1,120	258	79	46	39
21	200	872	812	1,230	655	728	343	1,170	253	77	46	38
22	1,150	698	698	948	590	818	359	1,110	280	76	46	37
23	934	580	620	782	560	1,120	394	948	243	74	44	36
24	519	508	585	670	548	969	394	758	215	72	44	35
25	331	595	640	600	540	812	425	615	200	71	44	35
26	286	734	552	1,370	504	698	453	552	188	70	44	34
27	281	580	496	3,510	484	610	457	532	175	67	42	34
28	220	520	457	4,310	528	560	418	556	163	66	42	33
29	187	468	480	3,050	------	520	390	650	155	65	42	55
30	169	480	484	2,230	------	484	376	704	147	64	42	102
31	154	------	443	1,630	------	453	------	605	------	63	42	------
TOTAL	5,549	26,442	31,556	43,430	19,555	17,710	12,273	23,378	9,392	2,837	1,519	1,384
MEAN	179	881	1,018	1,401	698	571	409	754	313	91.5	49.0	46.1
MAX	1,150	3,570	3,610	4,310	1,420	1,120	464	1,200	524	140	62	110
MIN	38	122	443	560	460	346	343	366	147	63	42	33
AC-FT	11,010	52,450	62,590	86,140	38,790	35,130	24,340	46,370	18,630	5,630	3,010	2,750
CFSM	1.72	8.47	9.79	13.5	6.71	5.49	3.39	7.25	3.01	.880	.471	.443
IN	1.98	9.46	11.28	15.53	6.99	6.33	4.39	8.36	3.36	1.01	.54	.49

CAL YR 1966: TOTAL 212,352 MEAN 582 MAX 3,610 MIN 38 AC-FT 421,200 CFSM 5.60 INCHES 75.94
WAT YR 1967: TOTAL 195,025 MEAN 534 MAX 4,310 MIN 33 AC-FT 386,800 CFSM 5.13 INCHES 69.74

Peak discharge (base, 4,500 cfs).--Jan. 28 (0800 hrs) 4,980 cfs (7.70 ft).

Note.--No gage-height record Aug. 9 to Sept. 13.

14-1859. Quartzville Creek near Cascadia, Oreg.

Location.--Lat 44°32'25", long 122°26'05", in NW¼ sec.10, T.12 S., R.3 E., on right bank 80 ft downstream from Panther Creek, 1.3 miles southwest of Yellowstone Guard Station, 10 miles north of Cascadia, and at mile 6.6.

Drainage area.--99.2 sq mi.

Records available.--August 1963 to November 1964, October 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,050 ft (from topographic map). August 13, 1963, to June 10, 1964, graphic water-stage recorder and June 11 to Dec. 22, 1964, digital water-stage recorder on left bank at present datum.

Extremes.--Maximum discharge during year, 6,980 cfs Jan. 28 (gage height, 12.52 ft); minimum, 19 cfs Sept. 24-29.

1963-67: Maximum discharge, 36,500 cfs Dec. 22, 1964, from slope-area measurement of peak flow; minimum, 19 cfs Sept. 24-29, 1967.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	127	812	740	1,080	685	436	412	384	85	39	22
2	41	113	692	615	967	635	448	404	388	81	37	22
3	38	93	610	1,860	812	516	500	448	357	77	36	22
4	35	86	1,010	1,900	720	460	545	512	350	74	35	21
5	33	103	1,150	1,200	670	408	512	535	339	72	35	21
6	30	158	1,000	900	580	400	472	630	315	69	33	21
7	30	125	900	700	500	396	460	735	283	67	33	21
8	32	113	800	600	460	380	488	854	252	65	33	21
9	33	125	1,700	550	440	444	448	967	228	65	32	21
10	32	374	2,000	600	416	420	416	765	210	63	31	24
11	30	2,440	3,000	1,640	392	360	388	615	198	62	31	65
12	49	3,060	4,000	1,230	376	332	376	530	193	60	30	54
13	86	1,290	6,000	3,200	396	322	530	472	198	59	30	35
14	57	5,000	4,000	2,400	360	311	492	484	195	56	29	42
15	47	5,080	1,810	2,000	353	308	440	600	198	54	28	25
16	44	3,110	1,380	1,680	424	570	440	818	201	53	28	24
17	42	1,890	1,110	1,230	1,420	740	404	925	193	53	27	23
18	40	1,230	918	932	1,900	1,070	404	800	180	50	27	25
19	38	1,100	818	1,090	1,020	755	384	740	168	50	25	24
20	283	1,100	824	2,280	730	755	376	788	160	50	24	23
21	269	911	698	1,380	605	830	380	800	153	50	24	22
22	1,760	704	722	974	535	860	424	735	190	48	24	22
23	1,120	575	496	770	516	1,090	545	610	158	48	24	21
24	565	406	500	640	516	1,020	580	476	135	47	23	21
25	338	645	662	620	530	824	615	388	125	45	23	20
26	273	842	535	2,120	476	705	670	346	118	44	23	21
27	273	650	433	5,090	440	620	655	343	109	42	23	21
28	220	560	378	5,730	508	560	530	368	102	42	23	21
29	185	468	398	3,490	------	512	464	464	95	40	23	33
30	164	486	446	2,330	------	484	428	520	89	39	24	109
31	138	------	390	1,460	------	452	------	472	------	39	23	------
TOTAL	6,355	32,964	40,192	51,951	18,142	18,224	14,250	18,556	6,264	1,749	880	867
MEAN	205	1,099	1,297	1,676	648	588	475	599	209	56.4	28.4	28.9
MAX	1,760	5,080	6,000	5,730	1,900	1,090	670	967	388	85	39	109
MIN	30	86	378	550	353	308	376	343	89	39	23	20
CFSM	2.07	11.1	13.1	16.9	6.53	5.93	4.79	6.03	2.10	.57	.29	.29
IN.	2.38	12.4	15.1	19.5	6.80	6.83	5.34	6.96	2.35	.66	.33	.33
AC-FT	12,600	65,380	79,720	103,000	35,980	36,150	28,260	36,810	12,420	3,470	1,750	1,720

CAL YR 1966: TOTAL 230,930 MEAN 633 MAX 6,000 MIN 23 CFSM 6.38 IN 86.58 AC-FT 458,000
WAT YR 1967: TOTAL 210,394 MEAN 576 MAX 6,000 MIN 20 CFSM 5.81 IN 78.88 AC-FT 417,300

Peak discharge (base, 4,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-12	0530	11.10	4,600				
11-14	2000	12.00	6,050				
12-13	-	-	-				
1-28	0630	12.52	6,980				

14-1861. Green Peter Reservoir near Foster, Oreg.

Location.--Lat 44°27'10", long 122°32'40", in NE¼SE¼ sec.10, T.13 S., R.2 E., in Green Peter Dam on Middle Santiam River 7.0 miles northeast of Foster and at mile 5.7.

Drainage area.--273 sq mi.

Records available.--October 1966 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents observed during year, 200,100 acre-ft June 26 (elevation, 939.7 ft); minimum, no contents prior to Oct. 6.

Remarks.--Reservoir is formed by concrete, gravity-type dam with ogee spillway completed in 1966 by Corps of Engineers; controlled storage began Oct. 6, 1966. Total capacity, 430,000 acre-ft and usable capacity 333,000 acre-ft between elevations 887.0 (proposed lower limit of operation) and 1,015 ft (top of spillway gates). Reservoir used for flood control, power development, improvement of navigation, pollution abatement, and other purposes. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre feet)

887	97,000	920	156,000
890	101,800	930	177,400
900	118,400	940	200,800
910	136,600		

Contents, in acre-feet, at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		1,220	1,400	4,500	25,400	5,700	53,300	105,000	184,200	199,600	184,900	163,900
2		1,220	1,450	4,300	17,800	6,600	55,100	107,400	185,600	199,800	184,300	163,100
3		1,220		4,100	13,500	4,050	56,600	109,000	186,500	199,800	183,700	162,400
4		1,220		7,500	11,500	4,500	57,700	110,800	188,300	199,600	183,000	161,800
5			2,000	12,000	5,700	4,800	59,900	112,800	189,800	199,400	183,900	161,100
6	0		1,900	9,900	4,100	5,100	61,000	115,000	190,700	199,400	181,700	160,400
7		1,250	2,000	7,900	4,500	5,400	62,100	117,600	192,200	199,400	181,200	159,700
8		1,240	1,850	3,700	4,100	5,400	63,300	120,200	193,600	197,700	180,600	158,900
9		1,240	1,480	4,100	4,800	4,800	65,700	123,800	194,100	197,200	179,900	158,200
10		1,310		4,300	4,800	5,100	66,900	127,400	194,800	197,200	179,300	157,700
11		2,000		5,100	4,500	4,800	68,100	131,000	195,500	196,000	178,600	157,300
12		6,750	2,500	9,100	3,900	4,300	69,300	133,800	196,000	195,100	178,100	156,800
13		4,800	16,000	10,700	2,000	4,500	70,500	135,600	197,200	194,800	177,400	156,200
14		6,300	23,800	17,800	5,100	5,850	72,450	136,600	197,400	194,100	176,800	155,500
15		15,500	23,800	17,800	4,500	6,150	73,800	140,400	198,600	193,600	176,000	154,800
16		21,700	20,400	16,500	5,100	6,600	74,400	142,300	199,600	193,300	175,400	154,100
17		23,800		16,500	5,700	9,900	77,000	146,100	199,600	192,800	174,700	153,400
18		17,800		15,500	9,900	14,500	79,600	150,000	198,200	192,300	173,900	152,800
19			14,000	14,000	6,300	16,000	81,000	153,200	197,200	191,800	173,200	152,100
20			12,000	14,000	4,100	18,400	82,400	157,000	197,400	191,300	172,500	151,400
21		3,100	12,500	14,000	5,700	20,400	83,800	160,000	198,200	190,800	171,900	150,600
22		1,600	13,000	9,500	4,500	25,400	86,600	163,100	198,400	190,300	171,200	150,000
23		1,420	14,500	5,100	4,800	29,400	89,500	166,400	198,200	189,800	170,500	149,300
24				4,500	5,700	33,700	91,000	169,700	199,100	189,300	169,800	148,500
25		1,380		3,500	4,800	36,400	92,500	171,700	199,400	188,700	169,000	147,800
26				3,100	4,500	40,000	94,750	173,000	200,100	188,200	168,200	147,000
27			6,000	12,500	4,500	43,000	97,000	174,300	199,800	187,700	167,700	146,300
28		1,380	8,700	27,000	5,100	45,000	98,600	176,100	199,600	187,200	166,900	145,600
29		1,380	7,900	36,400	----------	47,000	101,800	177,400	199,400	186,500	166,200	145,100
30		1,380	6,900	37,300	----------	51,100	104,200	179,600	198,400	186,000	165,500	145,200
31	1,220	----------		32,800	----------	51,100	----------	181,900	----------	185,400	164,700	----------
Max	1,220	23,800	23,800	37,300	25,400	51,100	104,200	181,900	200,100	199,800	184,900	163,900
Min	0	1,220	1,400	3,100	2,000	4,050	53,300	105,000	184,200	185,400	164,700	145,100
(†)	749.0	755.0	788.0	832.0	782.0	851.0	891.5	932.0	939.0	933.54	924.24	914.54
(‡)	+1,220	+160	+5,520	25,900	-27,700	+46,000	+53,100	+77,700	+16,500	-13,000	-20,700	-19,500

Cal yr 1966: Max 23,800 Min 0 Ac-ft ‡ -
Wtr yr 1967: Max 200,100 Min 0 Ac-ft ‡ +145,200

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1866. Foster Reservoir at Foster, Oreg.

Location.--Lat 44°25'00", long 122°40'25", in NW¼NE¼ sec.27, T.13 S., R.1 E., in Foster Dam on South Santiam River, 1,500 ft above Wiley Creek, 0.5 mile north of Foster, and at mile 37.7.

Drainage area.--492 sq mi.

Records available.--December 1966 to September 1967.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents observed during year, 41,400 acre-ft June 19 (elevation, 624.0 ft); minimum, no contents prior to November.

Remarks.--Reservoir is formed by a rock-fill embankment with an impervious core and ogee spillway completed in 1966 by Corps of Engineers; controlled storage began in November 1966. Total capacity, 61,000 acre-ft and usable capacity 33,600 acre-ft between elevations 609.0 (proposed lower limit of operation) and 641.0 (top of spillway gates). Reservoir used for reregulation of water released from Green Peter Reservoir, flood control, power development, pollution abatement and other purposes. Capacity table computed by Corps of Engineers. Figures given herein represent total contents.

Capacity table (elevation, in feet, and contents, in acre-feet)

609	27,400
610	28,300
615	32,800
620	37,400
625	42,400

Contents, in acre-feet at midnight, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				27.490	27.580	28.480	29.200	29.740	35.410	39.500	40.200	39.280
2				28.300	28.480	27.670	29.200	29.920	36.130	38.900	40.200	39.240
3				28.300	27.940	28.120	29.290	29.650	37.100	38.700	40.200	39.220
4				30.010	27.850	28.210	29.290	29.110	38.000	38.800	40.120	39.270
5				30.640	28.210	28.480	29.290	29.740	38.600	39.400	40.110	39.240
6				29.290	27.850	28.930	29.200	28.660	38.400	39.400	40.100	39.230
7				28.300	28.750	28.930	29.380	29.560	38.400	39.400	40.150	39.200
8				27.940	28.750	28.840	29.650	29.740	38.400	39.600	40.010	39.110
9				29.200	29.200	29.200	29.740	30.100	38.400	39.600	39.950	39.120
10				29.470	28.750	28.750	29.650	30.460	37.900	39.800	39.910	39.200
11				28.570	28.660	28.480	29.560	29.560	37.900	40.290	39.830	39.390
12				29.650	27.850	28.750	28.840	30.100	37.700	40.260	39.800	39.580
13				31.000	27.850	28.840	29.020	30.280	37.300	40.230	39.800	39.630
14				29.740	27.400	28.750	29.380	30.280	37.200	40.230	39.750	39.670
15				29.200	27.760	28.210	29.380	30.640	37.200	40.290	39.850	39.670
16				29.290	28.660	28.570	29.290	30.820	37.100	40.380	39.810	39.730
17				28.480	28.120	28.750	29.470	31.450	37.800	40.470	39.790	39.810
18				28.840	29.470	29.290	29.290	31.630	39.800	40.510	39.800	39.890
19			24.200	28.570	27.580	29.560	29.560	31.720	41.400	40.540	39.740	39.950
20			26.280	29.200	28.480	29.200	29.830	31.000	41.300	40.580	39.720	40.030
21			27.000	29.200	29.290	29.380	29.650	31.000	40.900	40.620	39.690	40.150
22			28.480	28.750	30.100	29.200	29.920	31.000	40.700	40.620	39.650	40.140
23			28.750	28.300	29.020	29.200	29.650	30.910	40.800	40.580	39.610	40.180
24			28.570	27.850	28.660	29.560	29.920	30.460	40.800	40.450	39.600	40.250
25			28.210	27.850	29.290	28.930	29.650	30.460	40.600	40.390	39.500	40.320
26			28.300	27.850	29.200	28.840	29.830	30.820	40.600	40.380	39.470	40.400
27			28.750	29.020	29.020	28.750	30.100	31.540	40.200	40.300	39.400	40.500
28			29.290	30.460	28.660	29.020	29.650	32.170	40.100	40.260	39.430	40.570
29			28.300	29.740	----------	28.840	29.740	32.980	40.300	40.260	39.400	40.650
30			27.850	27.940	----------	28.840	29.740	33.880	40.000	40.200	39.400	40.880
31		----------	27.760	28.120	----------	29.200	----------	34.690	----------	40.200	39.350	----------
Max			29,290	31,000	30,100	29,560	30,100	34,690	41,400	40,620	40,200	40,880
Min			24,200	27,490	27,400	27,670	28,840	28,660	35,410	38,700	39,350	39,110
(†)			609.4	609.8	610.4	611.0	611.6	617.1	622.6	622.80	621.95	623.48
(‡)			+27,760	+360	+540	+540	+540	+4,950	+5,310	+200	-850	+1,530

Cal yr 1966: Max 29,290 Min 0 Ac-ft -
Wtr yr 1967: Max 41,400 Min 24,200 Ac-ft ‡ +40,880

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.

14-1867. South Santiam River at Foster, Oreg.

Location.--Lat 44°24'50", long 122°40'25", in NE¼NW¼ sec.27, T.13 S., R.1 E., on left bank 300 ft upstream from Wiley Creek, 0.2 mile below Foster Reservoir, 0.5 mile north of the town of Foster, and at river mile 37.5.

Drainage area.--493 sq mi.

Records available.--October 1966 to September 1967

Gage.--Digital water-stage recorder. Datum of gage is 521.46 ft above mean sea level (levels by Corps of Engineers). Prior to Nov. 2, 1966, staff gage at present site and datum.

Extremes.--Maximum discharge during year, 16,600 cfs Jan. 28 (gage height, 9.52 ft); minimum, 21 cfs Dec. 27, 28.

Remarks.--Records excellent. Flow regulated since Oct. 31, 1966 by Green Peter Reservoir (see sta. no. 1861), and since November 1966 by Foster Reservoir (see sta. no. 1866). Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	140	438	2,700	2,410	8,310	2,560	1,010	944	566	488	452	457
2	150	414	2,850	2,620	8,180	2,830	1,010	1,000	501	446	449	452
3	170	390	2,540	2,620	4,250	3,220	1,010	1,030	521	443	448	452
4	160	365	3,590	3,230	6,750	2,250	1,000	1,020	502	445	449	449
5	150	369	5,070	4,990	5,120	1,500	1,000	1,010	760	450	452	451
6	110	521	4,920	5,440	1,950	1,310	786	738	902	468	442	452
7	85	509	4,920	5,690	1,960	1,710	774	875	776	453	452	450
8	65	454	4,300	2,890	1,910	1,820	872	1,130	789	454	462	446
9	65	440	3,500	1,680	1,930	1,960	907	1,400	776	449	456	447
10	70	1,090	6,650	2,730	2,090	2,150	1,020	1,750	763	449	457	448
11	65	4,260	7,660	2,520	2,960	2,150	1,040	1,110	752	450	458	464
12	68	6,970	9,610	3,600	1,920	1,460	846	992	750	449	455	460
13	122	5,410	11,000	8,740	1,470	963	948	996	610	444	452	433
14	378	10,800	10,600	8,490	1,650	1,110	948	992	523	444	452	439
15	300	14,200	8,980	8,280	1,450	741	829	992	526	441	450	441
16	220	11,800	5,290	6,540	2,190	818	824	992	606	427	452	432
17	200	9,020	901	5,390	4,490	1,190	824	1,370	590	422	457	433
18	180	7,620	360	5,240	9,070	1,670	801	1,500	583	422	456	430
19	180	6,850	1,810	4,690	6,590	1,780	780	1,480	615	422	456	431
20	240	6,490	2,980	6,470	3,150	1,370	758	1,470	610	419	457	428
21	1,300	5,240	1,830	8,310	2,730	1,440	744	1,470	619	416	455	427
22	2,800	3,600	1,750	7,080	3,260	1,480	823	1,470	605	432	460	434
23	3,400	2,720	2,240	4,250	2,530	1,540	1,000	1,460	593	455	456	434
24	2,100	2,310	4,280	3,200	2,230	1,700	997	1,200	602	450	458	432
25	1,140	2,400	5,120	2,770	2,810	1,480	1,200	887	627	458	455	433
26	814	3,780	2,220	4,000	2,170	1,450	1,220	582	605	456	452	431
27	839	3,040	311	8,240	1,670	1,040	1,440	590	596	451	454	426
28	734	2,580	1,450	14,800	1,920	1,010	1,120	595	596	452	452	438
29	650	2,260	2,640	14,300	------	1,070	1,110	589	596	451	457	448
30	550	2,190	2,890	11,000	------	1,000	1,080	589	598	450	455	446
31	464	------	2,830	10,100	------	1,000	------	578	------	452	454	------
TOTAL	17,909	118,530	127,792	182,310	96,710	48,772	28,521	32,801	19,053	13,808	14,074	13,244
MEAN	578	3,951	4,122	5,881	3,454	1,573	951	1,058	635	445	454	441
MAX	3,400	14,200	11,000	14,800	9,070	3,220	1,440	1,750	902	488	462	464
MIN	65	365	311	1,680	1,450	741	744	578	501	416	442	426
AC-FT	35,520	235,100	253,500	361,600	191,800	96,740	56,570	65,060	37,790	27,390	27,920	26,270

CAL YR 1966: TOTAL MEAN MAX MIN AC-FT
WAT YR 1967: TOTAL 713,524 MEAN 1,955 MAX 14,800 MIN 65 AC-FT 1,415,000

14-1870. Wiley Creek near Foster, Oreg.

Location.--Lat 44°22'20", long 122°37'20", in NE¼NE¼ sec.12, T.14 S., R.1 E., on right bank 0.5 mile downstream from Little Wiley Creek, 3.5 miles southeast of Foster, and at mile 4.4.

Drainage area.--51.8 sq mi.

Records available.--October 1947 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 716.08 ft above mean sea level (Corps of Engineers bench mark). Prior to Apr. 6, 1965, graphic water-stage recorder at datum 2.00 ft higher. Apr. 6 to Aug. 17, 1965, staff gage at present site and datum.

Average discharge.--20 years, 222 cfs (160,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,890 cfs Jan. 28 (gage height, 5.12 ft); minimum, 6.6 cfs Sept. 28, 29.

1947-67: Maximum discharge, 8,370 cfs Dec. 22, 1964 (gage height, 10.00 ft, present datum), from slope-area measurement of peak flow; maximum gage height, 11.80 ft, present datum Dec. 21, 1964 (backwater from debris); minimum discharge, 5.6 cfs Nov. 26, 1952.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	26	219	170	512	247	193	220	83	24	12	7.7
2	12	25	207	160	425	253	185	208	80	23	11	7.5
3	12	24	192	281	350	225	178	202	68	22	11	7.6
4	10	23	523	389	299	199	173	202	63	21	11	7.5
5	9.8	27	661	340	259	178	172	198	59	20	11	7.5
6	9.4	33	566	289	227	162	159	203	57	20	11	7.5
7	10	28	569	252	202	148	150	212	53	19	11	7.4
8	11	30	421	221	181	137	147	219	52	19	11	7.4
9	11	35	380	209	164	155	142	276	49	19	11	7.2
10	10	158	840	216	150	163	134	245	47	18	10	8.6
11	10	513	802	342	139	152	125	220	46	18	10	42
12	17	541	1,050	342	129	141	120	210	50	18	10	20
13	26	385	1,090	750	143	138	166	189	53	17	9.5	12
14	17	1,410	855	613	132	133	167	177	43	17	9.2	10
15	14	1,630	581	503	149	144	157	175	39	16	8.9	8.7
16	13	1,140	433	422	195	230	171	182	37	16	8.7	8.1
17	12	648	337	343	725	281	174	182	35	16	8.5	8.4
18	12	411	275	286	766	422	202	167	33	15	8.4	9.2
19	12	378	235	347	475	356	210	152	31	16	8.3	8.8
20	80	370	239	902	346	315	208	141	31	15	8.1	8.4
21	71	289	208	730	279	297	195	132	46	15	8.1	8.2
22	181	232	181	498	238	288	222	121	55	15	8.1	7.9
23	118	192	172	370	213	333	308	109	43	14	8.0	7.7
24	73	164	170	304	195	323	287	97	36	14	8.0	7.4
25	52	198	211	276	206	282	371	87	32	14	8.0	7.1
26	49	251	189	650	181	254	402	80	30	14	8.1	7.1
27	48	207	165	1,180	165	224	372	75	29	14	8.1	7.0
28	38	182	149	1,570	173	213	310	84	27	13	7.7	6.8
29	33	158	155	1,110	------	204	271	86	26	13	7.6	14
30	31	156	155	830	------	207	241	99	25	12	7.7	27
31	28	------	141	644	------	203	------	93	------	12	7.7	------
TOTAL	1,040.2	9,864	12,371	15,539	7,618	7,007	6,312	5,043	1,358	519	286.7	311.7
MEAN	33.6	329	399	501	272	226	210	163	45.3	16.7	9.25	10.4
MAX	181	1,630	1,090	1,570	766	422	402	276	83	24	12	42
MIN	9.4	23	141	160	129	133	120	75	25	12	7.6	6.8
CFSM	.65	6.35	7.70	9.68	5.25	4.36	4.06	3.14	.87	.32	.18	.20
IN.	.75	7.08	8.88	11.2	5.47	5.03	4.53	3.62	.97	.37	.21	.22
AC-FT	2,060	19,560	24,540	30,820	15,110	13,900	12,520	10,000	2,690	1,030	569	618

CAL YR 1966: TOTAL 74,635.2 MEAN 204 MAX 2,830 MIN 9.1 CFSM 3.95 IN 53.58 AC-FT 148,000
WAT YR 1967: TOTAL 67,269.6 MEAN 184 MAX 1,630 MIN 6.8 CFSM 3.56 IN 48.30 AC-FT 133,400

Peak discharge (base, 2,300 cfs).--No peak above base.

14-1875. South Santiam River at Waterloo, Oreg.

Location.--Lat 44°29'55", long 122°49'20", in SW¼NW¼ sec.28, T.12 S., R.1 W., on left bank 600 ft downstream from highway bridge at Waterloo, 2.1 miles (revised) upstream from Hamilton Creek, and at mile 23.3.

Drainage area.--640 sq mi.

Records available.--July 1905 to March 1907, October 1910 to December 1911 (gage heights only January to December 1911), July 1923 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as South Fork of Santiam River at Waterloo 1905-7, 1910-11.

Gage.--Digital water-stage recorder. Datum of gage is 370.39 ft above mean sea level, datum of 1929. Prior to Dec. 31, 1911, staff gage at site 0.5 mile downstream at datum about 5.0 ft lower. July 1, 1923, to Nov. 12, 1934, staff gage, and Nov. 13, 1934, to Nov. 1, 1966, graphic water-stage recorder, at present site and datum.

Average discharge.--45 years (1905-6, 1923-67), 2,885 cfs (2,089,000 acre-ft per year).

Extremes.--Maximum discharge during year, 17,600 cfs Jan. 28 (gage height, 9.55 ft); minimum, 61 cfs Oct. 12.

1905-7, 1910-11, 1923-67: Maximum discharge, 95,200 cfs Dec. 22, 1964 (gage height, 24.50 ft); minimum, 61 cfs Oct. 12, 1967.

Remarks.--Records excellent. Flow regulated since October 1966 by Green Peter Reservoir (see sta. no. 1861) and since December 1966 by Foster Reservoir (see sta. no. 1866). No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	148	530	2,750	2,970	9,750	3,170	1,520	1,520	740	570	469	478
2	153	489	3,100	3,110	9,400	3,480	1,480	1,440	690	478	469	478
3	181	443	2,740	3,090	5,380	4,210	1,460	1,500	670	469	460	478
4	176	399	4,000	4,130	7,770	3,160	1,430	1,469	640	469	460	478
5	153	382	6,270	5,900	6,390	2,120	1,430	1,430	770	478	460	478
6	115	522	5,850	6,480	2,720	1,710	1,280	1,200	1,180	496	460	478
7	73	603	6,120	6,720	2,560	2,080	1,050	1,100	971	487	460	467
8	67	513	5,340	4,240	2,550	2,270	1,220	1,530	971	478	467	476
9	70	489	4,190	2,160	2,460	2,410	1,230	1,900	960	478	478	478
10	70	1,310	7,370	3,290	2,620	2,820	1,360	2,340	960	469	487	469
11	67	4,830	8,910	3,340	3,640	2,940	1,370	1,720	949	469	487	532
12	67	8,530	11,100	4,140	2,680	2,030	1,180	1,410	949	469	487	541
13	111	6,990	12,600	10,200	1,830	1,490	1,220	1,370	850	469	478	467
14	435	12,000	12,400	9,970	2,170	1,560	1,280	1,350	680	469	478	469
15	342	16,000	10,500	9,580	2,080	1,160	1,250	1,320	660	469	469	478
16	250	14,000	7,240	7,780	2,440	1,210	1,260	1,320	700	452	469	460
17	217	10,800	2,110	6,470	5,790	1,820	1,320	1,640	750	444	469	469
18	195	8,810	584	6,240	10,600	2,620	1,300	1,880	700	444	469	469
19	190	7,680	2,550	5,620	8,110	2,710	1,320	1,850	730	444	478	460
20	250	7,240	3,270	8,190	4,330	2,200	1,220	1,810	730	444	478	460
21	1,220	5,760	2,650	10,300	3,360	2,150	1,220	1,810	720	436	478	452
22	2,830	4,010	2,220	8,650	4,220	2,170	1,200	1,800	810	436	478	452
23	4,060	2,930	2,860	5,540	3,300	2,250	1,810	1,790	690	478	478	452
24	2,630	2,460	4,520	4,390	2,850	2,530	1,540	1,550	720	478	478	452
25	1,520	2,370	5,960	3,860	3,600	2,220	1,960	1,230	720	478	478	452
26	1,060	4,040	3,520	4,900	2,780	2,160	2,140	740	690	478	478	452
27	1,110	3,320	603	9,980	2,160	1,670	2,340	730	660	478	478	444
28	911	2,760	1,250	16,700	2,290	1,490	1,930	740	650	469	478	444
29	743	2,430	3,200	16,300	------	1,670	1,790	750	650	469	478	478
30	642	2,280	3,480	12,900	------	1,520	1,710	770	640	469	478	514
31	598	------	3,380	11,700	------	1,550	------	790	------	469	478	------
TOTAL	20,654	134,917	152,677	218,640	119,830	68,550	43,820	43,790	23,200	14,583	14,710	14,197
MEAN	666	4,497	4,925	7,053	4,280	2,211	1,461	1,413	773	470	475	473
MAX	4,060	16,000	12,600	16,700	10,600	4,210	2,340	2,340	1,180	570	487	541
MIN	67	382	584	2,160	1,830	1,160	1,050	730	640	436	460	444
AC-FT	40,970	267,600	302,800	433,700	237,700	136,000	86,920	86,860	46,020	28,920	29,180	28,160

CAL YR 1966: TOTAL 1,013,847 MEAN 2,778 MAX 28,100 MIN 67 AC-FT 2,011,000
WAT YR 1967: TOTAL 869,566 MEAN 2,382 MAX 16,700 MIN 67 AC-FT 1,725,000

14-1887. Crabtree Creek near Crabtree, Oreg.

Location.--Lat 44°39'15", long 122°51'05", in NW¼SE¼ sec.31, T.10 S., R.1 W., on left bank 30 ft downstream from bridge on State Highway 226, 2.5 miles upstream from Beaver Creek, 2.7 miles northeast of Crabtree, and at mile 8.19.

Drainage area.--111 sq mi.

Records available--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 280 ft (from topographic map). Prior to Apr. 8, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 3,680 cfs Jan. 28 (gage height, 8.04 ft); minimum, 14 cfs Aug. 25, 26.

1963-67: Maximum discharge, 8,410 cfs Jan. 28, 1965 (gage height, 14.01 ft); minimum, 14 cfs Aug. 15, 1966, Aug. 25, 26, 1967.

Remarks.--Records good. No regulation. Diversions for irrigation by pumping, and by Lacomb Irrigation Canal 15 miles above gage.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	40	95	555	472	960	610	373	386	249	59	23	22
2	47	86	561	478	834	594	359	368	246	53	21	25
3	58	81	544	714	720	544	359	355	214	42	19	26
4	46	76	1,000	930	654	500	364	350	199	41	18	28
5	42	80	1,390	870	599	456	382	355	187	41	18	26
6	40	153	1,130	738	544	425	359	377	175	37	20	23
7	42	124	1,060	638	489	400	346	410	162	37	20	23
8	44	117	942	577	451	382	346	456	151	37	19	24
9	37	110	828	522	415	440	338	555	141	35	19	26
10	33	430	1,290	500	391	500	326	489	133	35	20	32
11	31	1,130	1,360	750	373	415	314	410	126	33	19	42
12	33	1,260	1,730	780	350	382	306	359	116	32	19	45
13	74	904	2,030	2,510	400	368	467	326	112	31	19	34
14	58	2,460	1,790	1,920	400	346	500	314	103	29	17	28
15	46	2,490	1,160	1,360	495	334	456	330	97	29	16	24
16	41	2,140	906	1,190	489	425	495	382	93	29	17	23
17	46	1,340	750	960	1,630	561	462	425	90	28	16	23
18	44	972	649	798	1,960	768	440	391	86	27	16	25
19	43	912	583	786	1,120	665	410	359	84	28	16	26
20	104	828	676	1,530	858	588	395	350	77	27	16	22
21	205	682	582	1,270	715	555	386	342	97	25	16	20
22	626	577	516	990	627	544	386	314	128	24	16	20
23	580	500	472	816	566	654	451	282	116	25	16	21
24	345	445	456	704	517	638	420	239	93	23	16	21
25	227	561	533	643	533	550	473	211	82	23	16	22
26	189	762	472	864	484	506	533	193	72	24	16	24
27	193	605	420	1,960	440	451	533	184	68	23	17	25
28	150	528	386	3,180	467	445	484	193	65	23	17	23
29	129	473	395	2,140	------	435	445	249	61	22	17	23
30	122	456	420	1,510	------	410	420	298	61	23	18	49
31	106	------	390	1,150	------	400	------	310	------	23	24	------
TOTAL	3,821	21,377	25,976	34,250	18,481	15,291	12,328	10,562	3,684	968	557	795
MEAN	123	713	838	1,105	660	493	411	341	123	31.2	18.0	26.5
MAX	626	2,490	2,030	3,180	1,960	768	533	555	249	59	24	49
MIN	31	76	386	472	350	334	306	184	61	22	16	20
CFSM	1.11	6.42	7.55	9.95	5.95	4.44	3.70	3.07	1.11	.28	.16	.24
IN.	1.28	7.16	8.70	11.5	6.19	5.12	4.13	3.54	1.23	.32	.19	.27
AC-FT	7,580	42,400	51,520	67,930	36,660	30,330	24,450	20,950	7,310	1,920	1,100	1,580

CAL YR 1966: TOTAL 155,969	MEAN 427	MAX 4,620	MIN 17	CFSM 3.85	IN 52.26	AC-FT 309,400
WAT YR 1967: TOTAL 148,090	MEAN 406	MAX 3,180	MIN 16	CFSM 3.66	IN 49.62	AC-FT 293,700

Peak discharge (base, 3,000 cfs).--Jan. 13 (1300 hrs) 3,260 cfs (7.44 ft); Jan. 28 (1100 hrs) 3,680 cfs (8.04 ft).

14-1888. Thomas Creek near Scio, Oreg.

Location.--Lat 44°42'40", long 122°45'45", in SE¼ sec.11, T.10 S., R.1 W., on left bank 0.3 mile upstream from bridge on State Highway 226, 1.6 miles upstream from Mill Creek, 4.2 miles east of Scio, and at mile 14.6.

Drainage area.--109 sq mi.

Records available.--October 1962 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 380.84 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 8, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--5 years, 457 cfs (330,900 acre-ft per year).

Extremes.--Maximum discharge during year, 4,560 cfs Jan. 28 (gage height, 9.27 ft); minimum, 7.8 cfs Aug. 20.

1962-67: Maximum discharge, 16,700 cfs Dec. 22, 1964 (gage height, 18.44 ft); minimum, 7.8 cfs Aug. 20, 1967.

Remarks.--Records good. No regulation. Several small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	24	75	475	459	1,100	519	383	343	209	50	19	12
2	26	69	530	405	931	511	358	326	202	49	18	12
3	28	65	556	751	786	469	349	326	175	47	18	11
4	25	60	1,290	926	686	418	352	332	159	43	17	12
5	24	63	1,900	869	601	375	369	333	146	41	16	9.6
6	23	100	1,510	742	533	347	339	355	136	39	19	9.9
7	25	84	1,350	643	475	326	321	378	126	37	20	11
8	26	86	1,080	562	426	307	324	400	119	36	17	10
9	27	81	929	512	383	362	314	484	113	37	16	10
10	25	229	1,870	494	351	419	297	398	108	35	14	13
11	24	1,150	1,730	699	332	369	282	337	105	33	14	49
12	28	1,430	2,190	676	307	338	274	301	102	33	15	44
13	67	1,040	2,810	1,640	375	324	643	270	98	31	14	32
14	44	3,200	2,160	1,270	346	306	644	263	91	28	15	25
15	37	2,980	1,370	1,070	468	306	579	276	86	27	12	21
16	33	2,220	1,010	943	481	439	594	308	81	27	10	18
17	30	1,340	813	780	1,150	592	557	325	76	26	9.9	18
18	29	897	676	657	1,400	848	510	295	73	24	9.9	22
19	28	845	585	839	907	703	454	270	70	24	9.3	21
20	171	767	653	2,010	700	620	418	269	66	17	11	20
21	219	615	556	1,550	580	575	391	263	91	21	13	19
22	608	501	482	1,140	506	562	390	242	123	21	10	19
23	391	418	455	889	452	723	454	213	104	22	10	17
24	251	357	471	742	413	738	425	184	83	22	9.9	16
25	172	403	587	679	414	621	481	162	75	20	10	16
26	145	473	512	1,270	362	557	512	147	71	21	11	16
27	144	380	447	2,880	332	488	496	143	66	23	13	15
28	112	338	398	3,760	359	471	445	157	62	20	14	14
29	96	305	385	2,630	------	455	403	204	57	19	11	18
30	95	348	366	1,920	------	441	369	265	53	20	12	52
31	83	------	335	1,340	------	418	------	260	------	22	12	------
TOTAL	3,060	20,919	30,481	35,747	16,156	14,947	12,727	8,829	3,126	915	420.0	582.5
MEAN	98.7	697	983	1,153	577	482	424	285	104	29.5	13.5	19.4
MAX	608	3,200	2,810	3,760	1,400	848	644	484	209	50	20	52
MIN	23	60	335	405	307	306	274	143	53	17	9.3	9.6
CFSM	.91	6.40	9.02	10.6	5.29	4.42	3.89	2.61	.96	.27	.12	.18
IN.	1.04	7.14	10.4	12.2	5.51	5.10	4.34	3.01	1.07	.31	.14	.20
AC-FT	6,070	41,490	60,460	70,900	32,040	29,650	25,240	17,510	6,200	1,810	833	1,160

CAL YR 1966: TOTAL 167,246 MEAN 458 MAX 5,080 MIN 15 CFSM 4.20 IN 57.06 AC-FT 331,700
WAT YR 1967: TOTAL 147,909.5 MEAN 405 MAX 3,760 MIN 9.3 CFSM 3.72 IN 50.47 AC-FT 293,400

Peak discharge (base, 3,500 cfs).--Nov. 14 (1400 hrs) 3,560 cfs (8.23 ft), Jan. 28 (0800 hrs) 4,560 cfs (9.27 ft).

14-1890. Santiam River at Jefferson, Oreg.

Location.--Lat 44°42'55", long 123°00'40", in SE¼ sec.11, T.10 S., R.3 W., on right bank 350 ft upstream from Southern Pacific railroad bridge at Jefferson, 2.1 miles downstream from confluence of North and South Santiam Rivers, and at mile 9.62.

Drainage area.--1,790 sq mi, approximately.

Records available.--October 1905 to June 1906 (gage heights and discharge measurements only), October 1907 to September 1916, October 1939 to September 1967. Gage-height records collected at same site since 1907 are contained in reports of U.S. Weather Bureau.

Gage.--Digital water-stage recorder. Datum of gage is 199.63 ft above mean sea level, datum of 1929. Prior to Sept. 22, 1940, staff gages at sites within 350 ft downstream at datum 3.00 ft higher. Sept. 23, 1940, to Sept. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--37 years (1907-16, 1939-67), 7,749 cfs (5,610,000 acre-ft per year).

Extremes.--Maximum discharge during year, 39,900 cfs Jan. 28 (gage height, 14.06 ft); minimum, 992 cfs Aug. 7, 8.

1905-6, 1907-16, 1939-67: Maximum discharge, 197,000 cfs Dec. 22, 1964 (gage height, 24.22 ft); minimum observed, 260 cfs Aug. 15-22, Aug. 24 to Sept. 2, 1940.

Flood stage of 25.0 ft was reached in December 1861, and 23.4 ft in February 1890 (information from Corps of Engineers). On Nov. 21, 1921, the stage reached 19.5 ft at gage on railroad bridge 350 ft downstream; corresponding gage height at present site and datum, 24.4 ft, from curve of relation (discharge, 202,000 cfs).

Remarks.--Records excellent. Flow regulated since 1953 by Detroit Reservoir (see sta. no. 1805.), since Oct. 31, 1966 by Green Peter Reservoir (see sta. no. 1861.), and since Dec. 19, 1966 by Foster Reservoir (see sta. no. 1866.). Salem Canal diverts from North Santiam River at Stayton for irrigation and power; most of this water reaches Willamette River by way of Mill Creek at Salem. Stayton Canal diverts from North Santiam River at Stayton for irrigation of lands near West Stayton; some return flow reaches North Santiam River above station. Albany power canal diverts from South Santiam River at Lebanon; return flow reaches Willamette River at Albany. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,980	3,670	7,750	7,280	20,900	6,840	4,580	4,310	4,700	1,520	1,110	1,220
2	1,960	3,520	8,460	7,280	19,300	7,580	4,400	4,050	4,020	1,440	1,090	1,120
3	1,990	3,650	7,360	8,170	15,400	8,120	4,310	4,080	3,130	1,350	1,090	1,090
4	1,990	3,420	10,300	11,000	15,900	6,630	4,310	4,040	2,990	1,290	1,070	1,300
5	1,960	3,470	17,200	12,700	15,100	5,440	4,390	4,120	2,890	1,290	1,070	1,150
6	1,920	3,690	15,700	13,200	11,500	4,890	4,270	4,210	3,460	1,260	1,100	1,440
7	2,020	3,630	15,400	12,500	10,100	4,840	3,790	3,980	3,770	1,270	1,050	1,470
8	2,000	3,220	14,300	10,600	9,260	5,090	3,870	4,630	3,410	1,060	1,070	1,540
9	1,940	3,160	11,100	7,240	7,200	5,660	3,880	5,260	2,940	1,260	1,070	1,570
10	1,940	4,290	15,700	7,710	6,070	7,210	3,860	5,570	2,590	1,270	1,070	1,560
11	1,900	9,110	19,600	8,970	6,260	6,020	3,810	4,920	2,210	1,230	1,090	1,650
12	1,900	19,400	23,700	9,830	5,870	4,990	3,560	4,100	2,290	1,160	1,100	1,760
13	2,040	14,700	30,700	21,500	4,910	4,700	4,100	3,810	2,370	1,240	1,070	1,630
14	2,160	24,100	30,400	23,000	5,570	5,220	4,980	3,690	1,950	1,230	1,070	1,610
15	2,250	31,500	27,500	19,700	5,890	4,230	4,850	3,700	1,900	1,180	1,070	1,590
16	2,260	27,300	23,600	18,200	5,740	4,090	4,820	4,070	1,790	1,180	1,080	1,590
17	2,220	22,900	12,700	14,800	11,200	5,400	4,960	4,600	1,830	1,170	1,060	1,640
18	2,170	18,300	9,860	13,500	19,900	7,200	4,690	4,870	1,710	1,180	1,060	1,650
19	1,580	16,500	10,800	12,400	16,100	7,340	4,600	4,510	1,670	1,140	1,090	1,740
20	1,650	16,200	11,200	22,000	10,600	6,450	4,300	4,390	1,630	1,190	1,070	1,660
21	3,390	13,800	11,000	23,600	8,000	5,900	4,150	4,540	1,660	1,110	1,090	1,630
22	6,090	13,500	9,800	20,500	8,250	5,860	3,960	4,350	2,050	1,050	1,090	1,610
23	9,330	14,500	8,040	16,400	7,150	6,670	4,960	4,140	3,000	1,080	1,200	1,670
24	7,400	14,000	8,570	13,800	6,550	7,490	4,600	4,290	3,610	1,120	1,180	1,650
25	4,830	13,900	11,300	10,200	6,850	6,500	5,050	4,840	3,030	1,120	1,060	1,630
26	2,770	16,700	10,000	10,600	6,100	5,910	5,670	4,590	2,300	1,130	1,070	1,610
27	2,840	15,900	6,070	24,100	5,480	5,290	5,960	4,380	1,810	1,130	1,100	1,610
28	3,680	13,800	4,980	36,500	5,270	4,800	5,500	4,360	1,730	1,130	1,100	1,610
29	3,980	9,470	6,730	32,600	------	4,950	4,920	4,760	2,140	1,120	1,310	1,720
30	3,900	7,190	6,720	26,300	------	4,850	4,620	4,780	1,770	1,120	1,260	1,870
31	3,740	------	6,970	24,100	------	4,790	------	5,070	------	1,080	1,100	------
TOTAL	91,780	368,490	413,510	500,280	276,420	180,950	135,720	137,010	76,350	37,100	34,110	46,590
MEAN	2,961	12,280	13,340	16,140	9,872	5,837	4,524	4,420	2,545	1,197	1,100	1,553
MAX	9,330	31,500	30,700	36,500	20,900	8,120	5,960	5,570	4,700	1,520	1,310	1,870
MIN	1,580	3,160	4,980	7,240	4,910	4,090	3,560	3,690	1,630	1,050	1,050	1,090
AC-FT	182,000	730,900	820,200	992,300	548,300	358,900	269,200	271,800	151,400	73,590	67,660	92,410

CAL YR 1966: TOTAL 2,605,038 MEAN 7,137 MAX 59,400 MIN 710 AC-FT 5,167,000
WAT YR 1967: TOTAL 2,298,310 MEAN 6,297 MAX 36,500 MIN 1,050 AC-FT 4,559,000

14-1895. Luckiamute River near Hoskins, Oreg.

Location.--Lat 44°43'10", long 123°30'10", in NE¼ sec.11, T.10 S., R.7 W., on right bank 0.2 mile downstream from Benton County line, 3.5 miles northwest of Hoskins, and at mile 43.2.

Drainage area.--34.3 sq mi.

Records available.--May 1934 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 378.7 ft above mean sea level (river-profile survey). Prior to July 31, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--33 years, 207 cfs (149,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,590 cfs Jan. 27 (gage height, 7.93 ft); minimum, 6.0 cfs Aug. 26, 28, 29, Sept. 9.

1934-67: Maximum discharge, 5,560 cfs Dec. 14, 1946, Feb. 17, 1949; maximum gage height, 13.22 ft Dec. 14, 1946; minimum discharge, 4.0 cfs Sept. 5-8, 1962.

Flood of Dec. 6, 1933, reached a stage of about 13.8 ft, from information by local residents.

Remarks.--Records excellent. Logponds upstream cause diurnal fluctuation at times. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	27	173	218	596	174	228	140	48	21	12	7.5
2	12	25	437	203	481	208	213	132	47	20	12	8.9
3	12	24	508	324	399	188	195	126	43	20	11	9.8
4	12	22	1,200	396	348	174	195	120	42	19	11	8.0
5	12	24	1,170	423	300	164	185	114	39	18	9.8	8.0
6	12	36	1,050	432	264	156	172	108	39	18	12	8.0
7	12	29	987	381	238	148	160	102	39	18	12	8.0
8	15	25	696	330	215	144	152	97	38	18	12	7.5
9	14	27	555	279	198	174	154	97	38	18	9.8	7.5
10	13	55	732	248	183	185	142	94	37	17	9.8	11
11	11	308	641	248	170	183	134	90	37	16	11	17
12	15	506	738	357	160	178	130	86	36	16	9.8	13
13	19	280	1,470	674	261	180	312	82	35	16	9.8	11
14	14	366	980	547	248	235	300	79	34	16	8.9	8.9
15	12	327	638	453	363	670	282	76	31	15	8.9	8.0
16	12	347	460	393	498	603	306	73	30	15	8.0	8.0
17	11	306	363	333	682	582	291	70	29	15	8.0	8.9
18	11	242	297	291	610	582	264	66	28	15	8.0	11
19	11	212	258	381	463	470	240	65	28	15	8.0	9.8
20	58	179	230	551	372	429	220	62	28	15	8.0	8.9
21	52	174	200	572	309	369	200	58	28	14	8.0	8.9
22	215	148	180	505	264	339	183	57	31	14	8.0	8.0
23	114	134	178	449	235	396	170	55	31	14	7.5	8.0
24	70	121	193	399	210	411	158	54	28	14	7.5	7.5
25	46	159	233	417	193	372	172	52	26	13	7.5	7.5
26	43	151	208	778	174	330	168	49	25	13	7.5	7.5
27	40	136	188	1,870	162	288	156	49	25	13	8.0	7.5
28	32	124	174	1,930	170	273	148	51	24	13	7.5	7.5
29	30	114	180	1,550	------	258	144	57	24	13	7.5	9.8
30	34	121	162	1,220	------	255	144	65	23	13	7.5	17
31	30	------	160	754	------	243	------	52	------	13	8.0	------
TOTAL	1,006	4,749	15,639	17,906	8,766	9,361	5,918	2,478	991	488	284.3	277.9
MEAN	32.5	158	504	578	313	302	197	79.9	33.0	15.7	9.17	9.26
MAX	215	506	1,470	1,930	682	670	312	140	48	21	12	17
MIN	11	22	160	203	160	144	130	49	23	13	7.5	7.5
CFSM	.95	4.62	14.7	16.8	9.13	8.80	5.75	2.33	.96	.46	.27	.27
IN.	1.09	5.15	17.0	19.4	9.50	10.1	6.42	2.69	1.07	.53	.31	.30
AC-FT	2,000	9,420	31,020	35,520	17,390	18,570	11,740	4,920	1,970	968	564	551

CAL YR 1966: TOTAL 73,015.9 MEAN 200 MAX 2,520 MIN 7.9 CFSM 5.83 IN 79.17 AC-FT 144,800
WAT YR 1967: TOTAL 67,864.2 MEAN 186 MAX 1,930 MIN 7.5 CFSM 5.42 IN 73.58 AC-FT 134,600

Peak discharge (base, 2,000 cfs).--Jan. 27 (2400 hrs) 2,590 cfs (7.93 ft).

14-1900. Luckiamute River at Pedee, Oreg.

Location.--Lat 44°44'35", long 123°25'25", in SE¼ sec.33, T.9 S., R.6 W., on left bank 0.5 mile downstream from Pedee Creek, 1.0 mile southwest of Pedee, and at mile 29.7.

Drainage area.--115 sq mi.

Records available.--October 1940 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 245.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 1, 1949, staff gage at site 1,700 ft downstream at datum 1.85 ft lower. July 1, 1949, to May 9, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 461 cfs (333,800 acre-ft per year).

Extremes.--Maximum discharge during year, 5,810 cfs Jan. 28 (gage height, 12.87 ft); minimum, 7.0 cfs Aug. 25, 30.

1940-67: Maximum discharge, 15,700 cfs (revised) Dec. 22, 1964 (gage height, 20.09 ft), from rating curve extended above 8,000 cfs by logarithmic plotting; minimum, 7.0 cfs Sept. 12, 1944, Aug. 25, 30, 1967.

Remarks.--Records excellent. Some diurnal fluctuation at low flow caused by logponds above station. Several small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Revisions.--The figures of peak discharges for water year 1966 have been revised, superseding those published in the 1966 annual report, are given herewith: Dec. 28 (0530 hrs) 4,160 cfs (10.70 ft); Jan. 4 (0100 hrs) 6,580 cfs (13.67 ft); Mar. 9 (1130 hrs) 7,000 cfs (14.07 ft).

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	40	249	402	1,530	386	514	270	99	34	15	9.3
2	13	38	676	386	1,210	474	474	253	95	32	15	8.5
3	13	35	856	542	991	442	442	242	88	31	14	10
4	13	33	2,370	748	856	406	422	229	85	30	14	11
5	13	32	2,440	951	735	378	406	220	79	28	13	8.9
6	13	43	2,030	964	640	346	378	208	76	28	12	8.5
7	14	43	2,070	870	568	318	350	199	76	28	14	8.9
8	16	37	1,560	762	514	302	326	191	76	28	13	8.9
9	15	35	1,240	654	466	362	318	191	74	27	12	8.5
10	14	59	1,510	568	430	430	298	183	70	27	11	9.7
11	12	282	1,350	568	398	418	278	180	70	25	11	15
12	16	699	1,360	717	366	406	260	172	70	24	12	17
13	22	350	2,450	1,510	559	398	490	165	67	24	13	14
14	21	522	2,010	1,250	555	438	514	157	64	24	12	11
15	17	478	1,400	1,050	901	1,450	502	152	61	23	11	9.7
16	16	506	1,050	924	1,080	1,280	573	145	58	22	11	9.3
17	15	434	811	784	1,290	1,200	591	138	55	22	10	10
18	15	338	663	694	1,220	1,200	534	134	52	20	10	12
19	15	302	564	865	987	1,020	486	127	50	20	10	12
20	48	267	510	1,330	820	937	450	121	48	19	9.3	11
21	83	242	438	1,400	699	811	410	116	51	19	9.7	11
22	249	208	392	1,230	609	739	378	112	55	19	8.9	11
23	152	183	372	1,080	542	861	350	108	61	19	8.5	10
24	106	167	381	942	490	937	322	106	51	18	8.9	9.7
25	76	197	474	919	446	843	338	103	47	17	8.5	9.3
26	61	217	422	1,390	406	753	350	99	44	18	8.9	8.5
27	64	191	386	3,560	374	663	310	97	42	19	9.7	9.3
28	51	175	354	4,470	366	627	294	99	40	17	10	8.9
29	46	162	354	3,700	------	586	278	103	38	15	8.9	9.7
30	48	167	326	2,940	------	586	274	116	36	15	8.5	15
31	44	------	306	1,950	------	559	------	108	------	16	8.9	------
TOTAL	1,314	6,482	31,374	40,120	20,048	20,556	11,910	4,844	1,878	708	341.7	315.6
MEAN	42.4	216	1,012	1,294	716	663	397	156	62.6	22.8	11.0	10.5
MAX	249	699	2,450	4,470	1,530	1,450	591	270	99	34	15	17
MIN	12	32	249	386	366	302	260	97	36	15	8.5	8.5
AC-FT	2,610	12,860	62,230	79,580	39,760	40,770	23,620	9,610	3,720	1,400	678	626
CFSM	.369	1.88	8.80	11.3	6.23	5.77	3.45	1.36	.544	.198	.096	.091
IN	.42	2.10	10.15	12.97	6.48	6.65	3.85	1.57	.61	.23	.11	.10

CAL YR 1966: TOTAL 156,338.1 MEAN 428 MAX 5,170 MIN 9.0 AC-FT 310,100 CFSM 3.72 INCHES 50.56
WAT YR 1967: TOTAL 139,891.3 MEAN 383 MAX 4,470 MIN 8.5 AC-FT 277,500 CFSM 3.33 INCHES 45.24

Peak discharge (base, 4,200 cfs).--Jan. 28 (0130 hrs) 5,810 cfs (12.87 ft).

14-1901. Little Luckiamute River at Falls City, Oreg.

Location.--Lat 44°52'15", long 123°27'40", in SE¼ sec.18, T.8 S., R.6 W., on right bank 0.8 mile above Dutch Creek, 0.6 mile west of Falls City, and at mile 13.3.

Drainage area.--22.7 sq mi.

Records available.--August 1965 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 475.57 ft above mean sea level (levels by Soil Conservation Service).

Extremes.--Maximum discharge during year, 1,660 cfs Dec. 12 (gage height, 5.02 ft); minimum, 6.4 cfs Oct. 1, 2, 4-6.

1965-67: Maximum discharge, 2,090 cfs Mar. 9, 1966 (gage height, 5.61 ft); minimum, 3.5 cfs July 16, 1966.

Flood of Dec. 22, 1964, reached a stage of 7.70 ft, from floodmark (discharge, 3,570 cfs), from rating curve extended above 860 cfs.

Remarks.--Records fair. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	26	150	159	500	138	150	93	48	20	12	9.4
2	7.4	24	399	148	421	138	145	91	45	19	12	10
3	7.4	22	381	260	354	123	138	91	42	19	12	10
4	7.0	21	726	304	304	113	143	91	41	18	12	9.4
5	6.7	22	696	280	260	105	140	91	39	18	12	9.4
6	6.9	27	685	268	224	100	133	98	38	18	12	9.4
7	9.7	23	565	232	192	96	130	100	38	18	12	9.4
8	10	22	417	192	168	93	128	103	36	18	12	8.9
9	8.7	23	367	168	153	115	133	108	36	18	11	8.9
10	7.7	38	702	159	143	108	120	98	35	18	11	12
11	7.3	318	545	196	133	100	113	89	35	17	11	16
12	12	394	975	284	123	96	118	82	33	17	11	12
13	15	224	1,310	495	196	96	332	78	32	16	11	10
14	10	324	750	367	165	125	228	76	30	16	11	9.4
15	9.0	276	500	300	192	296	177	76	29	16	10	9.4
16	8.4	349	381	260	236	308	180	78	28	15	10	8.9
17	7.8	264	300	216	349	358	165	76	27	15	10	9.4
18	7.8	168	244	184	332	363	150	73	26	15	10	9.4
19	8.9	153	204	345	256	296	140	69	25	16	9.9	9.4
20	44	130	180	475	208	336	133	65	26	15	9.9	8.9
21	44	125	153	421	174	300	125	62	26	15	9.9	8.9
22	183	100	138	349	156	354	120	59	28	15	9.9	8.9
23	90	87	140	304	145	450	113	56	28	14	9.9	8.4
24	54	78	148	264	135	385	110	53	25	14	9.9	8.4
25	39	93	168	358	130	316	120	50	24	14	9.4	8.4
26	39	87	145	768	120	272	115	48	23	14	9.4	8.4
27	37	78	133	1,430	113	232	108	47	23	14	9.4	7.9
28	31	71	120	1,290	128	208	100	50	22	13	9.4	7.9
29	29	65	128	1,200	------	180	98	54	21	13	9.4	8.9
30	34	87	118	828	------	177	96	60	21	13	9.4	12
31	28	------	113	570	------	165	------	51	------	12	9.4	------
TOTAL	816.7	3,719	11,981	13,074	6,010	6,542	4,201	2,316	930	493	327.2	287.7
MEAN	26.3	124	386	422	215	211	140	74.7	31.0	15.9	10.6	9.59
MAX	183	394	1,310	1,430	500	450	332	108	48	20	12	16
MIN	6.7	21	113	148	113	93	96	47	21	12	9.4	7.9
AC-FT	1,620	7,380	23,760	25,930	11,920	12,980	8,330	4,590	1,840	978	649	571
CFSM	1.16	5.46	17.0	18.6	9.47	9.30	6.17	3.29	1.37	.700	.467	.422
IN	1.34	6.09	19.63	21.42	9.85	10.72	6.88	3.79	1.52	.81	.54	.47

CAL YR 1966: TOTAL 57,311.5	MEAN 157	MAX 1,550	MIN 6.7	AC-FT 113,700	CFSM 6.92	INCHES 93.90
WAT YR 1967: TOTAL 50,697.6	MEAN 139	MAX 1,430	MIN 6.7	AC-FT 100,600	CFSM 6.12	INCHES 83.06

Peak discharge (base, 1,200 cfs).--Dec. 12 (2400 hrs) 1,660 cfs (5.02 ft).

14-1905. Luckiamute River near Suver, Oreg.

Location.--Lat 44°47'00", long 123°14'00", in SW¼SW¼ sec.18, T.9 S., R.4 W., on right bank 10 ft upstream from highway bridge at Helmick State Park, 3.0 miles northwest of Suver, 4.7 miles downstream from Little Luckiamute River, and at mile 13.5.

Drainage area.--240 sq mi.

Records available.--August 1905 to October 1911, July 1940 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 171.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Aug. 18, 1905 to October 31, 1911, staff gage at present site at different datum, Aug. 20 to Oct. 15, 1940, at present site and datum. Oct. 16, 1940, to Sept. 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--33 years, 925 cfs (669,700 acre-ft per year).

Extremes.--Maximum discharge during year, 10,800 cfs Jan. 28 (gage height, 29.01 ft); minimum, 2.0 cfs Aug. 20.

1905-11, 1940-67: Maximum discharge, 32,900 cfs Dec. 22, 1964 (gage height, 34.52 ft); minimum, 0.65 cfs Aug. 13, 1966.

Remarks.--Records excellent. Some diurnal fluctuation during periods of low flow caused by millpond above station. A few small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	29	83	463	745	3,910	741	987	522	195	55	16	6.9
2	27	77	987	789	2,840	810	907	501	184	52	16	9.9
3	27	71	1,700	898	2,130	835	847	481	169	53	13	12
4	27	70	2,350	1,230	1,750	747	802	464	158	48	12	13
5	27	67	4,650	1,680	1,500	694	787	440	149	46	13	14
6	26	67	4,790	1,680	1,310	649	741	400	136	42	15	13
7	27	84	4,520	1,630	1,170	609	688	380	131	38	16	13
8	28	78	3,940	1,420	1,060	579	650	360	133	38	14	15
9	31	71	2,720	1,240	956	618	630	360	132	39	11	16
10	31	73	3,010	1,100	880	795	609	360	127	38	10	14
11	29	153	3,270	1,100	814	784	570	340	125	34	7.4	20
12	28	1,200	2,890	1,040	768	747	539	340	126	31	6.4	32
13	32	879	4,300	2,130	932	717	730	320	120	28	8.4	30
14	43	912	5,710	2,320	1,110	706	979	300	112	26	14	22
15	39	1,030	4,070	1,860	1,450	1,890	907	300	103	25	11	17
16	35	980	2,570	1,630	1,740	2,450	904	280	97	24	9.4	17
17	32	1,030	1,810	1,410	1,900	2,090	1,070	280	92	27	5.3	16
18	31	790	1,450	1,240	2,020	2,160	948	260	90	23	3.9	18
19	31	640	1,230	1,200	1,730	1,890	865	260	85	22	3.6	20
20	37	637	1,110	2,570	1,440	1,730	801	240	79	21	2.6	20
21	131	542	964	2,860	1,250	1,570	738	240	83	23	4.4	18
22	268	489	856	2,520	1,110	1,420	687	230	87	21	5.0	18
23	428	416	787	2,100	998	1,570	649	218	102	24	5.3	18
24	257	370	816	1,780	912	1,960	611	210	94	24	5.6	17
25	168	339	1,000	1,650	841	1,680	605	202	79	19	5.0	16
26	126	449	944	2,130	769	1,490	667	192	73	17	6.4	17
27	122	394	834	4,120	712	1,300	615	182	68	18	8.4	16
28	113	358	762	9,440	668	1,200	572	185	64	18	14	16
29	95	327	729	8,480	------	1,150	546	196	60	18	11	16
30	89	318	709	8,020	------	1,100	539	213	58	18	11	19
31	94	------	651	5,850	------	1,090	------	222	------	21	8.9	------
TOTAL	2,508	12,994	66,592	77,862	38,670	37,771	22,190	9,478	3,311	931	293.0	509.8
MEAN	80.9	433	2,148	2,512	1,381	1,218	740	306	110	30.0	9.45	17.0
MAX	428	1,200	5,710	9,440	3,910	2,450	1,070	522	195	55	16	32
MIN	26	67	463	745	668	579	539	182	58	17	2.6	6.9
AC-FT	4,970	25,770	132,100	154,400	76,700	74,920	44,010	18,800	6,570	1,850	581	1,010
CFSM	.337	1.80	8.95	10.5	5.75	5.08	3.08	1.28	.458	.125	.039	.071
IN	.39	2.01	10.32	12.07	5.99	5.85	3.44	1.47	.51	.14	.05	.08

CAL YR 1966: TOTAL 332,360.0 MEAN 911 MAX 10,900 MIN 6.0 AC-FT 659,200 CFSM 3.80 INCHES 51.50
WAT YR 1967: TOTAL 273,109.8 MEAN 748 MAX 9,440 MIN 2.6 AC-FT 541,700 CFSM 3.12 INCHES 42.32

Peak discharge (base, 6,600 cfs).--Jan. 28 (1500 hrs) 10,800 cfs (29.01 ft).

14-1907. Rickreall Creek near Dallas, Oreg.

Location.--Lat 44°54'50", long 123°23'20", in SE¼SW¼ sec.35, T.7 S., R.6 W., on left bank 1.8 miles downstream from Canyon Creek, 3.5 miles west of Dallas, 5.1 miles downstream from Dallas Dam, and at mile 19.1.

Drainage area.--27.4 sq mi.

Records available.--August 1957 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 520 ft (from topographic map). Prior to June 12, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 141 cfs (102,100 acre-ft per year) adjusted for diversion and storage.

Extremes.--Maximum discharge during year, 2,570 cfs Jan. 28 (gage height, 5.84 ft); no flow for part of Aug. 31, Sept. 27, 28.
1957-67: Maximum discharge, 7,160 cfs Dec. 22, 1964 (gage height, 8.78 ft); no flow at times.

Remarks.--Records good except those below 10 cfs, which are fair. Low flow regulated since June 1960 by Dallas Reservoir (usable capacity, 740 acre-ft). Diversion for city of Dallas municipal supply from 4 tributaries and Rickreall Creek above station.

Cooperation.--Records of diversion, month-end elevations of reservoir, and reservoir capacity curve furnished by city of Dallas.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.7	8.3	105	124	456	116	162	66	27	5.6	1.7	.58
2	3.0	8.5	224	123	355	116	151	69	24	5.6	1.4	1.3
3	2.3	8.1	430	133	285	112	141	69	23	4.6	.77	1.9
4	2.3	7.2	914	162	239	106	120	69	21	4.9	.84	1.3
5	2.2	7.3	816	281	203	100	110	69	19	4.1	1.3	1.0
6	2.5	8.2	779	280	173	95	112	72	17	4.4	2.6	1.4
7	1.8	8.2	678	256	157	89	104	72	16	3.9	1.8	1.5
8	1.7	7.4	460	219	148	80	102	72	17	4.4	1.0	1.2
9	2.0	7.0	382	187	138	77	98	72	17	4.9	1.4	2.3
10	1.7	8.9	895	163	134	77	91	66	18	3.5	2.8	3.9
11	1.8	99	681	177	129	74	80	60	18	3.1	3.1	3.1
12	2.5	249	1,130	206	125	76	80	56	17	3.3	3.1	2.8
13	2.3	160	2,000	408	134	77	173	52	15	3.3	3.3	2.4
14	2.1	296	1,040	313	138	86	176	50	14	2.8	3.1	1.5
15	2.2	280	595	251	159	182	151	48	12	3.5	1.5	1.9
16	2.2	299	407	217	170	227	159	46	13	3.9	1.3	1.1
17	2.1	260	305	185	197	429	165	45	11	3.1	2.1	2.9
18	2.3	176	241	163	292	407	151	44	9.5	3.1	.77	2.4
19	2.5	148	201	347	233	323	141	40	9.1	3.3	.84	1.5
20	4.8	136	178	629	194	335	129	38	8.8	3.7	1.3	1.7
21	5.1	123	151	499	165	303	125	36	10	3.3	1.4	1.5
22	9.3	117	142	401	146	311	122	33	14	3.3	.70	1.5
23	5.2	113	139	334	141	407	118	30	15	3.7	.64	1.4
24	6.0	108	139	290	136	398	116	29	12	2.9	1.1	1.8
25	8.4	105	146	372	132	319	116	28	10	2.3	1.0	1.3
26	8.6	101	142	782	127	260	93	27	9.1	2.1	.58	1.4
27	7.9	96	138	1,750	120	218	50	25	8.1	2.3	.84	.92
28	7.9	91	133	1,910	118	197	62	27	7.7	2.3	1.2	.92
29	9.4	84	130	1,600	------	173	63	30	7.0	2.3	.64	2.3
30	13	82	125	1,080	------	173	72	33	6.1	3.1	.84	2.8
31	9.5	------	122	620	------	176	------	29	------	2.1	.70	------
TOTAL	137.3	3,202.1	13,968	14,462	5,144	6,119	3,533	1,502	425.4	108.7	45.66	53.52
MEAN	4.43	107	451	467	184	197	118	48.5	14.2	3.51	1.47	1.78
MAX	13	299	2,000	1,910	456	429	176	72	27	5.6	3.3	3.9
MIN	1.7	7.0	105	123	118	74	50	25	6.1	2.1	.58	.58
AC-FT	272	6,350	27,710	28,680	10,200	12,140	7,010	2,980	844	216	91	106

Adjusted for diversion and change in reservoir contents

Mean	14.6	98.8	461	466	184	206	121	50.4	17.6	6.54	2.86	3.85
Cfsm	0.533	3.61	16.8	17.0	6.72	7.52	4.42	1.84	0.642	0.239	0.104	0.141
In.	0.61	4.02	19.38	19.63	6.99	8.66	4.91	2.12	0.72	0.28	0.12	0.16
Ac-ft	897	5,880	28,320	28,680	10,210	12,650	7,180	3,100	1,050	402	176	229

Observed

Cal yr 1966: Total 57,068.00 Mean 156 Max 2,420 Min .70 Ac-ft 113,200
Wat yr 1967: Total 48,700.68 Mean 133 Max 2,000 Min .58 Ac-ft 96,600

Adjusted

Cal yr 1966: Mean 159 Cfsm 5.80 In. 78.84 Ac-ft 115,200
Wat yr 1967: Mean 136 Cfsm 4.96 In. 67.58 Ac-ft 98,760

Peak discharge (base, 1,300 cfs).--Dec. 13 (0230 hrs) 2,260 cfs (5.58 ft); Jan. 28 (0100 hrs) 2,570 cfs (5.84 ft).

14-1910. Willamette River at Salem, Oreg.

Location.--Lat 44°56'40", long 123°02'30", in SW¼ sec.22, T.7 S., R.3 W., on right bank 300 ft upstream from Center Street Bridge in Salem and at mile 84.16.

Drainage area.--7,280 sq mi, approximately.

Records available.--October 1909 to December 1916, January 1923 to September 1967. Monthly discharge only January 1923 to September 1927, published in WSP 1318. Gage-height records collected at about the same site since 1892 are contained in reports of U.S. Weather Bureau.

Gage.--Digital water-stage recorder. Datum of gage is 106.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 1, 1909, to Dec. 31, 1916, staff gage at site half a mile upstream at datum 8.00 ft higher. Jan. 1, 1923, to Nov. 26, 1934, staff gage at Center Street Bridge at datum 8.00 ft higher. Nov. 27, 1934, to Sept. 30, 1962, graphic water-stage recorder at present site at datum 8.00 ft higher. Oct. 1, 1962, to Oct. 15, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--51 years, 23,350 cfs (16,900,000 acre-ft per year).

Extremes.--Maximum discharge during year, 120,000 cfs Jan. 30 (gage height, 23.35 ft); minimum, 5,180 cfs Aug. 9 (gage height, 4.81 ft).
1909-16, 1923-67: Maximum discharge, 348,000 cfs Jan. 8, 1923 (gage height, 38.3 ft, present datum); minimum, 2,470 cfs Aug. 27, 1940 (gage height, 3.55 ft, present datum).
Maximum discharge known, 500,000 cfs Dec. 4, 1861 (gage height, about 47 ft, present datum), from rating curve extended above 250,000 cfs in 1916. Floods of Jan. 16, 1881, and Feb. 5, 1890, reached stages of 44.3 ft (discharge, 428,000 cfs) and 45.1 ft (discharge, 448,000 cfs), respectively, from floodmarks and information by Corps of Engineers.

Remarks.--Records excellent. Flow regulated since 1941 by Fern Ridge Reservoir, since 1942 by Cottage Grove Reservoir, since 1949 by Dorena Reservoir, since 1953 by Lookout Point and Detroit Reservoirs, since 1961 by Hills Creek Reservoir, since 1963 by Smith River and Cougar Reservoirs, and since Jan. 4, 1966 by Fall Creek Reservoir, since Oct. 31, 1966 by Green Peter Reservoir, and since Dec. 19, 1966 by Foster Reservoir (see elsewhere in this report). Many small diversions for irrigation above station; part of flow of Salem Canal, which diverts water from North Santiam River, returns to Willamette River below station, through Mill Creek at Salem (see sta. no. 1920). Record of water temperatures and chemical analysis at site 0.4 mile upstream for water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6,890	12,200	26,200	18,800	80,800	18,000	17,700	16,400	14,500	6,880	5,530	5,800
2	7,340	11,700	28,300	19,200	75,500	20,100	16,600	15,100	14,200	6,640	5,510	6,200
3	9,520	11,300	27,700	19,600	69,300	21,100	15,700	14,200	12,600	6,540	5,470	6,520
4	9,800	10,200	29,000	22,800	58,900	19,900	15,000	13,400	11,600	6,370	5,380	6,660
5	10,200	8,990	49,500	29,900	51,500	18,000	14,900	13,200	11,000	6,280	5,310	6,880
6	10,400	8,770	64,500	35,600	42,200	16,200	14,800	13,100	10,700	6,250	5,380	6,730
7	10,900	9,920	65,000	35,200	35,000	15,300	14,100	12,700	11,100	6,230	5,450	7,200
8	10,900	10,600	64,600	32,800	31,600	15,100	13,600	13,100	10,800	6,130	5,270	7,170
9	10,500	11,100	59,900	28,000	26,300	15,100	13,400	13,800	10,000	6,230	5,270	7,250
10	10,800	11,800	54,200	25,500	21,400	17,400	13,300	15,400	9,500	6,370	5,340	7,140
11	10,100	15,400	62,200	25,100	18,800	18,600	12,700	16,000	8,690	6,300	5,380	7,090
12	9,070	32,200	65,500	27,600	18,400	17,400	12,200	14,900	8,160	6,060	5,400	7,690
13	9,100	37,900	77,700	37,700	17,100	16,100	11,800	14,100	8,380	5,840	5,400	8,320
14	9,500	38,600	85,800	54,500	18,100	15,900	14,200	13,700	8,020	5,960	5,380	7,790
15	9,530	55,900	84,200	53,100	19,800	18,500	14,900	13,300	7,720	5,820	5,360	7,460
16	9,500	68,200	78,100	48,900	22,200	19,900	14,400	13,200	7,610	5,990	5,310	7,430
17	9,260	68,100	61,200	42,200	24,700	19,900	15,600	13,400	7,400	5,890	5,310	7,350
18	8,980	57,100	46,000	36,800	38,200	22,400	15,900	14,400	7,300	5,820	5,310	7,430
19	8,450	50,100	39,600	33,600	46,400	25,600	15,600	14,100	7,250	5,890	5,380	7,560
20	7,850	48,000	37,300	46,300	37,900	25,500	15,500	13,700	7,120	5,800	5,380	7,510
21	8,940	46,100	35,000	65,000	29,300	23,200	14,600	13,600	7,120	5,820	5,310	7,400
22	12,600	41,800	30,700	75,800	25,500	21,900	13,800	13,800	7,380	5,600	5,400	7,270
23	19,300	39,500	27,800	71,400	22,500	21,800	14,200	13,500	8,410	5,580	5,490	7,170
24	19,600	37,700	24,800	57,900	20,600	25,300	15,300	13,300	10,400	5,670	5,670	7,270
25	16,000	35,900	27,000	45,300	19,500	25,700	14,700	14,100	10,700	5,530	5,510	7,270
26	12,600	37,300	27,600	42,500	19,300	23,200	15,800	14,700	9,110	5,530	5,530	7,090
27	12,000	39,800	23,200	60,400	18,100	21,400	17,600	14,700	8,520	5,510	5,580	7,170
28	12,500	39,300	20,400	95,900	16,800	19,100	18,900	14,500	7,220	5,690	5,620	7,200
29	13,500	33,400	20,000	116,000	------	18,200	18,400	13,800	6,940	5,620	5,800	7,270
30	13,200	28,200	19,700	116,000	------	17,800	17,600	13,600	7,560	5,530	6,040	7,510
31	12,400	------	19,200	91,700	------	18,000	------	14,100	------	5,600	5,750	------
TOTAL	341,230	957,080	1,381.9M	1,511.1M	925,700	611,600	452,800	434,900	277,010	184,970	169,220	215,800
MEAN	11,010	31,900	44,580	48,750	33,060	19,730	15,090	14,030	9,234	5,967	5,459	7,193
MAX	19,600	68,200	85,800	116,000	80,800	25,700	18,900	16,400	14,500	6,880	6,040	8,320
MIN	6,890	8,770	19,200	18,800	16,800	15,100	11,800	12,700	6,940	5,510	5,270	5,800
AC-FT	676,800	1,898M	2,741M	2,997M	1,836M	1,213M	898,100	862,600	549,400	366,900	335,600	428,000
CFSM	1.51	4.38	6.12	6.70	4.54	2.71	2.07	1.93	1.27	.820	.750	.988
IN	1.74	4.89	7.06	7.72	4.73	3.12	2.31	2.22	1.42	.94	.86	1.10

CAL YR 1966: TOTAL 8,352,150 MEAN 22,880 MAX 155,000 MIN 4,970 AC-FT 16,570,000 CFSM 3.14 INCHES 42.67
WAT YR 1967: TOTAL 7,463,310 MEAN 20,450 MAX 116,000 MIN 5,270 AC-FT 14,800,000 CFSM 2.81 INCHES 38.12

M Expressed in thousands

14-1920. Mill Creek at Salem, Oreg.

Location.--Lat 44°56'05", long 123°01'00", in NE¼ sec.26, T.7 S., R.3 W., on left bank at State Street Bridge in Salem, 220 ft downstream from 19th Street power diversion and at mile 2.11.

Drainage area.--110 sq mi.

Records available.--November, December 1934, August to October 1938, May 1939 to September 1967. Prior to October 1940 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 166.12 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Nov. 2 to Dec. 31, 1934, staff gage at site three-quarters of a mile downstream at different datum. July 21 to Aug. 14, 1938, staff gage and Aug. 15, 1938, to Oct. 9, 1940, graphic water-stage recorder, at site 200 ft upstream at different datum. Oct. 10, 1940, to Oct. 15, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--28 years (1939-67), 140 cfs (101,400 acre-ft per year).

Extremes.--Maximum discharge during year, 1,020 cfs Jan. 28 (gage height, 5.51 ft); minimum, 0.48 cfs May 12, 17, 18; minimum daily, 0.56 May 18.

1934, 1938-67: Maximum discharge, 1,870 cfs Dec. 23, 1964 (gage height, 8.36 ft); no flow Oct. 2, 1938.

Remarks.--Records good. Diurnal fluctuation caused by powerplant above station. Salem power canal diverts water into Mill Creek near Stayton. Several diversions from Mill Creek, including Shelton flood bypass 1½ miles upstream and 19th Street power diversion 220 ft upstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	62	86	133	130	345	168	150	57	73	59	64	69
2	61	84	170	123	314	148	132	55	69	58	61	71
3	60	80	161	138	275	141	123	52	62	68	56	42
4	59	67	330	186	249	119	117	63	58	107	55	58
5	60	69	498	229	227	105	124	62	48	61	55	52
6	73	77	400	214	208	96	110	58	73	61	63	79
7	101	88	445	197	185	91	102	55	74	62	76	68
8	116	87	373	179	164	85	93	55	76	62	62	83
9	110	68	312	166	150	85	88	72	72	62	44	72
10	107	81	374	160	139	117	87	28	69	65	67	72
11	88	122	322	179	137	110	80	.65	73	57	69	95
12	92	157	344	177	128	98	68	.65	69	51	74	77
13	86	123	374	267	155	102	105	.74	67	59	82	68
14	75	276	354	243	150	100	150	.84	59	63	85	65
15	73	271	283	220	220	130	146	.74	56	58	68	65
16	85	277	251	208	194	123	150	.84	42	61	67	58
17	74	225	228	190	237	126	157	.65	62	65	62	69
18	56	181	207	176	251	150	139	.56	87	59	65	67
19	53	200	191	200	213	143	126	19	83	64	74	63
20	57	218	201	348	189	137	112	39	79	67	80	62
21	69	172	183	336	173	123	103	39	80	59	93	69
22	83	144	166	293	159	117	95	33	100	62	82	64
23	82	125	158	261	146	150	90	28	91	64	73	68
24	72	107	165	216	137	178	80	34	82	68	57	69
25	65	106	209	110	130	166	87	34	83	62	55	68
26	43	123	182	188	119	157	98	52	82	65	67	59
27	48	111	163	537	115	143	91	62	74	65	73	54
28	64	101	150	857	117	137	82	71	71	65	79	53
29	73	92	143	654	------	148	72	73	72	62	71	62
30	87	91	138	513	------	150	64	76	67	69	73	62
31	90	------	129	385	------	178	------	79	------	71	67	------
TOTAL	2,324	4,009	7,737	8,280	5,226	4,021	3,221	1,201.67	2,153	1,981	2,119	2,003
MEAN	75.0	134	250	267	187	130	107	38.8	71.8	63.9	68.4	66.8
MAX	116	277	498	857	345	178	157	79	100	107	93	95
MIN	43	67	129	110	115	85	64	.56	42	51	44	42
AC-FT	4,610	7,950	15,350	16,420	10,370	7,980	6,390	2,380	4,270	3,930	4,200	3,970

CAL YR 1966: TOTAL 49,922 MEAN 137 MAX 1,020 MIN 42 AC-FT 99,020
WAT YR 1967: TOTAL 44,275.67 MEAN 121 MAX 857 MIN .56 AC-FT 87,820

14-1925. South Yamhill River near Willamina, Oreg.

Location.--Lat 45°02'50", long 123°30'10", in sec.14, T.6 S., R.7 W., on left bank 2.3 miles southwest of Willamina, 2.8 miles upstream from Willamina Creek, and at mile 45.5.

Drainage area.--133 sq mi.

Records available.--May 1934 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 235.55 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 31, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--33 years, 617 cfs (446,700 acre-ft per year).

Extremes.--Maximum discharge during year, 8,030 cfs Dec. 13 (gage height, 9.88 ft); minimum, 4.4 cfs Aug. 18-20, 24-26.

1934-67: Maximum discharge, 19,600 cfs Dec. 22, 1964 (gage height, 17.07 ft); minimum, 2.6 cfs Oct. 11, 1952.

Remarks.--Records excellent. Slight regulation occasionally at low flows by millpond upstream. No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	84	1,200	695	1,850	496	678	342	103	33	12	6.4
2	15	75	2,710	615	1,400	733	625	325	96	28	10	6.4
3	19	69	2,460	918	1,080	640	570	307	90	27	9.7	7.4
4	18	63	5,260	1,220	894	565	536	291	84	24	8.5	8.9
5	16	62	4,030	1,380	739	514	509	279	79	23	7.4	7.4
6	16	108	3,540	1,440	625	469	473	267	75	23	8.9	7.0
7	17	87	3,080	1,270	541	433	419	258	77	22	9.9	7.4
8	24	75	2,320	1,090	478	402	390	249	77	22	9.7	7.7
9	27	70	1,890	930	424	509	394	243	75	23	8.9	7.4
10	22	122	3,060	822	386	527	356	234	73	23	8.1	8.9
11	20	652	2,480	972	367	509	325	219	73	21	7.0	25
12	21	1,370	3,670	1,070	335	478	304	207	71	20	6.7	27
13	52	1,040	7,050	2,100	777	478	828	197	66	19	6.1	17
14	39	1,530	4,070	1,620	822	733	828	188	63	19	6.7	13
15	31	1,490	2,460	1,370	1,340	2,610	733	181	58	18	6.1	9.3
16	28	1,310	1,680	1,240	1,330	2,460	918	173	55	17	5.2	8.5
17	26	1,100	1,230	1,020	1,680	2,400	900	166	52	18	5.2	8.5
18	24	803	936	864	1,630	2,050	794	161	50	17	4.6	10
19	23	799	766	2,320	1,300	1,550	733	156	46	17	4.4	9.9
20	226	714	684	3,000	1,040	1,690	684	149	46	17	4.4	9.9
21	268	659	550	2,320	858	1,360	620	140	49	17	4.9	9.3
22	759	551	473	1,880	722	1,570	600	135	59	16	4.9	8.9
23	396	457	473	1,690	615	2,060	545	131	66	16	5.2	8.5
24	243	394	610	1,400	536	1,710	496	126	53	16	4.9	7.4
25	163	440	828	1,490	487	1,400	518	122	47	15	4.4	6.7
26	149	468	667	2,440	424	1,180	518	117	43	14	4.9	6.1
27	159	394	570	5,050	382	996	464	115	41	13	5.8	6.7
28	117	358	509	6,060	415	912	419	117	40	13	5.8	6.1
29	100	336	523	5,520	------	852	390	133	37	12	5.2	6.7
30	117	794	478	3,900	------	858	363	147	35	12	5.5	14
31	96	------	433	2,490	------	761	------	115	------	12	5.8	------
TOTAL	3,247	16,474	60,690	60,196	23,477	33,905	16,930	5,990	1,879	587	206.8	293.4
MEAN	105	549	1,958	1,942	838	1,094	564	193	62.6	18.9	6.67	9.78
MAX	759	1,530	7,050	6,060	1,850	2,610	918	342	103	33	12	27
MIN	15	62	433	615	335	402	304	115	35	12	4.4	6.1
AC-FT	6,440	32,680	120,400	119,400	46,570	67,250	33,580	11,880	3,730	1,160	410	582
CFSM	.789	4.13	14.7	14.6	6.30	8.23	4.24	1.45	.471	.142	.050	.074
IN	.91	4.61	16.97	16.83	6.56	9.48	4.73	1.67	.53	.16	.06	.08

CAL YR 1966: TOTAL 237,137.7 MEAN 650 MAX 7,050 MIN 5.0 AC-FT 470,400 CFSM 4.89 INCHES 66.31
WAT YR 1967: TOTAL 223,875.2 MEAN 613 MAX 7,050 MIN 4.4 AC-FT 444,000 CFSM 4.61 INCHES 62.60

Peak discharge (base, 5,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1200	8.96	6,740				
12-13	1000	9.88	8,030				
1-28	0230	9.58	7,610				

14-1930. Willamina Creek near Willamina, Oreg.

Location.--Lat 45°08'35", long 123°29'35", near ¼ corner secs.12 and 13, T.5 S., R.7 W., on left bank 4.5 miles north of Willamina and at mile 6.2.

Drainage area.--64.7 sq mi.

Records available.--June 1934 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 315 ft above mean sea level (from plane-table survey). Prior to Oct. 1, 1939, graphic water-stage recorder at datum 1.00 ft higher. Oct. 1, 1939 to July 10, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--33 years, 257 cfs (186,100 acre-ft per year).

Extremes.--Maximum discharge during year, 5,230 cfs Dec. 13 (gage height, 10.02 ft); minimum, 5.4 cfs July 15.

1934-67: Maximum discharge, 10,800 cfs Dec. 22, 1964 (gage height, 13.54 ft), from rating curve extended above 3,400 cfs on basis of slope-area measurement at gage height 11.65 ft; minimum, 5.4 cfs July 15, 1967.

Flood of Mar. 31, 1931, reached a stage of about 12 ft, from information by local resident (discharge, 8,200 cfs from rating curve extended above 3,400 cfs on basis of slope-area measurement at gage height 11.65 ft).

Remarks.--Records excellent. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	24	342	323	889	265	382	196	70	27	16	12
2	13	23	940	318	694	358	355	188	67	26	16	13
3	13	22	816	433	565	330	330	179	62	25	15	14
4	13	21	2,100	527	478	295	315	171	59	24	15	13
5	12	22	1,530	565	415	273	298	163	55	24	15	12
6	13	26	1,290	639	367	258	275	157	54	24	15	13
7	16	24	1,150	583	330	244	256	151	54	24	16	13
8	16	22	864	506	305	240	242	147	54	24	15	12
9	15	24	719	439	280	265	235	145	54	24	15	12
10	14	38	985	403	260	270	218	143	52	23	14	15
11	13	108	900	412	249	270	205	137	52	23	14	20
12	19	220	1,820	551	233	263	196	128	51	22	14	16
13	23	164	4,090	866	338	273	325	124	48	22	13	14
14	17	351	1,870	722	335	315	320	118	46	22	13	13
15	16	381	1,110	632	430	600	308	114	42	20	13	12
16	15	312	762	576	523	718	343	109	40	20	13	12
17	15	250	572	495	646	750	355	103	38	20	12	12
18	15	191	448	433	656	710	346	99	37	20	12	13
19	16	178	385	644	558	614	328	95	35	21	12	13
20	60	158	335	884	474	628	313	92	35	23	12	12
21	65	144	295	802	412	555	298	86	38	20	12	12
22	139	127	265	714	367	604	288	81	47	20	12	12
23	71	114	254	646	335	660	273	79	46	19	12	12
24	44	107	275	569	308	628	254	79	38	18	12	11
25	35	127	318	597	285	576	265	76	35	18	12	11
26	37	136	280	822	263	509	254	73	33	18	12	11
27	38	124	256	2,100	247	445	240	71	32	18	12	11
28	30	114	240	2,710	256	418	227	75	31	18	12	10
29	27	112	247	2,270	------	418	213	85	30	17	12	13
30	32	196	229	1,690	------	439	205	88	29	17	12	18
31	27	------	224	1,130	------	418	------	76	------	17	12	------
TOTAL	891	3,860	25,911	25,001	11,498	13,609	8,462	3,628	1,364	658	412	387
MEAN	28.7	129	836	806	411	439	282	117	45.5	21.2	13.3	12.9
MAX	139	381	4,090	2,710	889	750	382	196	70	27	16	20
MIN	12	21	224	318	233	240	196	71	29	17	12	10
AC-FT	1,770	7,660	51,390	49,590	22,810	26,990	16,780	7,200	2,710	1,310	817	768
CFSM	.444	1.99	12.9	12.5	6.35	6.79	4.36	1.81	.703	.328	.206	.199
IN	.51	2.22	14.89	14.37	6.61	7.82	4.86	2.09	.78	.38	.24	.22

CAL YR 1966: TOTAL 105,084 MEAN 288 MAX 4,090 MIN 11 AC-FT 208,400 CFSM 4.45 INCHES 60.40
WAT YR 1967: TOTAL 95,681 MEAN 262 MAX 4,090 MIN 10 AC-FT 189,800 CFSM 4.05 INCHES 55.00

Peak discharge (base, 2,300 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1030	7.87	2,810				
12-13	0900	10.02	5,230				
1-28	0130	8.62	3,540				

14-1933. Mill Creek near Willamina, Oreg.

Location.--Lat 44°58'15", long 123°26'55", in NE¼NW¼ sec.17, T.7 S., R.6 W., on left bank 0.2 mile upstream from bridge, 0.7 mile downstream from South Branch, 7.5 miles south of Willamina, and at mile 11.5.

Drainage area.--27.4 sq mi.

Records available.--July 1958 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 562.02 ft above mean sea level (levels by Bureau of Reclamation). Prior to Oct. 28, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--9 years, 136 cfs (98,460 acre-ft per year).

Extremes.--Maximum discharge during year, 2,510 cfs Jan. 28 (gage height, 7.51 ft); minimum, 3.2 cfs Sept. 28, 29.

1958-67: Maximum discharge, 6,170 cfs Dec. 22, 1964 (gage height, 11.47 ft); minimum, 2.6 cfs Sept. 8, 1958.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.1	14	281	116	371	90	148	69	26	5.1	4.8	3.5
2	4.1	13	728	115	278	102	138	68	25	8.7	4.8	3.7
3	4.0	12	558	159	225	96	131	67	23	6.1	4.4	4.0
4	3.9	11	1,230	228	184	88	125	65	22	7.8	4.3	3.8
5	3.8	11	850	266	153	83	118	65	21	7.5	4.3	3.7
6	3.9	11	795	245	131	76	106	67	20	7.5	4.4	3.7
7	4.4	11	655	225	115	72	99	67	20	7.5	4.6	3.8
8	4.6	9.8	395	186	102	68	96	67	19	7.5	4.6	3.7
9	4.5	9.8	339	157	91	80	91	67	19	7.5	4.4	3.6
10	4.3	11	980	144	83	81	84	61	19	7.5	4.2	4.8
11	4.1	110	675	175	78	78	77	55	19	7.2	4.0	6.9
12	5.5	254	1,180	225	72	76	76	51	19	6.9	4.0	5.3
13	7.0	195	2,050	435	140	78	198	48	18	6.6	3.9	4.4
14	6.0	342	910	287	153	134	181	46	17	6.6	3.9	4.0
15	5.5	295	495	218	223	565	155	46	16	6.3	3.8	3.8
16	5.2	331	318	184	223	587	163	47	15	6.1	3.7	3.7
17	5.0	279	230	157	308	578	159	46	14	6.1	3.7	3.8
18	4.8	171	177	134	311	507	140	44	14	6.1	3.6	3.9
19	5.3	167	146	487	220	357	131	41	13	6.3	3.6	3.8
20	30	161	125	745	170	455	121	38	13	6.3	3.5	3.7
21	36	132	106	499	140	392	115	36	13	6.1	3.6	3.7
22	141	104	96	367	120	451	115	33	16	5.9	3.6	3.6
23	57	82	100	297	106	596	113	31	16	5.7	3.6	3.6
24	36	67	118	255	97	491	105	30	14	5.5	3.6	3.5
25	25	64	170	403	88	343	103	28	12	5.5	3.6	3.5
26	22	62	157	860	81	258	99	27	12	5.5	3.5	3.5
27	21	56	127	1,670	74	208	91	26	11	5.5	3.6	3.4
28	18	49	108	1,720	78	181	83	26	11	5.3	3.5	3.4
29	16	45	102	1,680	------	157	78	30	10	5.1	3.5	3.8
30	17	88	94	1,010	------	157	73	32	9.9	4.9	3.5	5.1
31	15	------	87	547	------	161	------	29	------	4.9	3.5	------
TOTAL	524.0	3,167.6	14,382	14,196	4,415	7,646	3,512	1,453	496.9	203.1	121.6	118.7
MEAN	16.9	106	464	458	158	247	117	46.9	16.6	6.55	3.92	3.96
MAX	141	342	2,050	1,720	371	596	198	69	26	9.1	4.8	6.9
MIN	3.8	9.8	87	115	72	68	73	26	9.9	4.9	3.5	3.4
AC-FT	1,040	6,280	28,530	28,160	8,760	15,170	6,970	2,880	986	403	241	235
CFSM	.617	3.87	16.9	16.7	5.77	9.01	4.27	1.71	.606	.239	.143	.145
IN	.71	4.30	19.52	19.27	5.99	10.38	4.77	1.97	.67	.28	.17	.17

CAL YR 1966: TOTAL 55,684.5 MEAN 153 MAX 2,380 MIN 3.1 AC-FT 110,400 CFSM 5.58 INCHES 75.58
WAT YR 1967: TOTAL 50,235.9 MEAN 138 MAX 2,050 MIN 3.4 AC-FT 99,640 CFSM 5.04 INCHES 68.19

Peak discharge (base, 1,400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1000	6.38	1,650				
12-13	0830	7.44	2,450				
1-28	0030	7.51	2,510				

14-1940. South Yamhill River near Whiteson, Oreg.

Location.--Lat 45°10'08", long 123°12'25", in NW¼ sec.5, T.5 S., R.4 W., near left bank on downstream side of Whiteson Bridge on U.S. Highway 99W, 1.3 miles northwest of Whiteson, 1.4 miles downstream from Salt Creek, and at mile 16.71.

Drainage area.--502 sq mi.

Records available.--July 1940 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 82.30 ft above mean sea level, datum of 1929. Prior to Sept. 20, 1940, wire-weight gage and Sept. 20, 1940 to Sept. 13, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 1,744 cfs (1,263,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs Dec. 14 (gage height, 41.85 ft); minimum, 3.2 cfs Aug. 24.

1940-67: Maximum discharge, 47,200 cfs Dec. 23, 1964 (gage height, 47.20 ft); minimum, 3.2 cfs Aug. 24, 1967.

Flood in December 1937 reached a stage of 46.9 ft, from Oregon State Highway Department bridge plans.

Remarks.--Records good. Slight regulation during low-water periods by logpond upstream. Small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	36	159	1,580	1,500	9,960	1,380	2,510	992	288	73	21	6.1
2	33	144	3,520	1,790	6,640	1,780	2,220	936	268	69	18	7.0
3	33	135	5,610	1,900	4,370	2,300	1,950	884	246	64	18	9.1
4	31	126	6,440	2,510	3,250	1,920	1,760	834	228	52	14	11
5	34	119	10,400	3,660	2,680	1,650	1,640	790	214	52	12	12
6	32	122	11,200	3,860	2,270	1,470	1,520	749	197	44	11	13
7	29	168	10,600	4,050	1,980	1,340	1,380	717	190	41	10	11
8	34	144	9,670	3,420	1,750	1,250	1,260	688	191	45	13	8.1
9	38	130	7,450	2,870	1,560	1,280	1,190	667	187	46	13	12
10	47	129	6,560	2,440	1,420	1,460	1,140	654	184	46	13	21
11	41	213	7,660	2,520	1,310	1,500	1,050	636	185	49	14	21
12	39	1,780	7,420	2,450	1,250	1,490	972	571	187	45	12	32
13	41	1,570	11,300	4,750	1,510	1,390	1,300	541	177	40	11	54
14	65	2,110	21,600	5,430	2,290	1,410	2,030	518	165	38	12	39
15	63	2,730	14,900	4,390	3,210	3,130	2,080	500	152	36	11	35
16	53	2,450	9,790	3,640	4,170	6,520	1,920	486	141	34	9.5	25
17	50	2,430	6,000	3,110	4,380	6,810	2,480	463	130	33	9.3	19
18	45	1,780	3,610	2,640	4,530	6,330	2,260	441	123	30	7.0	15
19	43	1,310	2,650	2,520	3,930	5,520	2,130	404	118	28	5.2	15
20	48	1,420	2,270	6,560	3,120	4,520	1,900	377	105	30	5.2	21
21	339	1,190	1,920	7,680	2,600	4,450	1,690	359	102	35	3.5	21
22	624	1,050	1,650	6,740	2,230	3,780	1,560	340	121	34	5.9	19
23	916	849	1,460	5,440	1,960	4,070	1,510	325	149	31	5.0	17
24	498	719	1,630	4,450	1,750	5,080	1,360	300	141	27	3.7	19
25	321	629	2,120	3,780	1,570	4,730	1,290	294	117	26	6.0	17
26	243	808	2,270	4,730	1,400	3,890	1,390	283	107	25	6.0	17
27	248	713	1,930	7,020	1,270	3,190	1,320	269	98	21	5.8	13
28	229	631	1,660	15,500	1,180	2,700	1,200	272	91	20	7.4	13
29	186	571	1,520	21,500	------	2,510	1,110	280	88	19	5.7	11
30	172	794	1,490	20,800	------	2,590	1,060	325	80	17	5.3	14
31	185	------	1,340	14,700	------	2,760	------	340	------	18	7.2	------
TOTAL	4,796	27,123	179,220	178,350	79,540	94,200	48,182	16,235	4,770	1,168	300.7	547.3
MEAN	155	904	5,781	5,753	2,841	3,039	1,606	524	159	37.7	9.70	18.2
MAX	916	2,730	21,600	21,500	9,960	6,810	2,510	992	288	73	21	54
MIN	29	119	1,340	1,500	1,180	1,250	972	269	80	17	3.5	6.1
CFSM	.31	1.80	11.5	11.5	5.66	6.05	3.20	1.04	.32	.08	.02	.04
IN.	.36	2.01	13.3	13.2	5.89	6.98	3.57	1.20	.35	.09	.02	.04
AC-FT	9,510	53,800	355,500	353,800	157,800	186,800	95,570	32,200	9,460	2,320	596	1,090

CAL YR 1966: TOTAL 693,006.4 MEAN 1,899 MAX 22,000 MIN 7.8 CFSM 3.78 IN 51.34 AC-FT 1,375,000
WAT YR 1967: TOTAL 634,432.0 MEAN 1,738 MAX 21,600 MIN 3.5 CFSM 3.46 IN 47.00 AC-FT 1,258,000

Peak discharge (base, 13,000 cfs).--Dec. 14 (0630 hrs) 23,000 cfs (41.85 ft); Jan. 28 (2130 hrs) 22,400 cfs (41.62 ft).

14-1955. Haskins Creek Reservoir near McMinnville, Oreg.

Location.--Lat 45°18'40", long 123°21'15", in NW¼ sec.18, T.3 S., R.5 W., on control tower 250 ft upstream from dam on Haskins Creek, 11 miles northwest of McMinnville, and at mile 5.1.

Drainage area.--6.88 sq mi.

Records available.--October 1951 to September 1967.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by city of McMinnville).

Extremes.--Maximum contents observed during year, 733 acre-ft Nov. 17-22, Apr. 17 to June 8 (elevation, 835.0 ft); no contents Nov. 27 to Apr. 4.

1951-67: Maximum contents observed, 748 acre-ft Nov. 17, 1954 (elevation, 835.65 ft); no contents most of time during winter months.

Remarks.--Reservoir is formed by earthfill dam equipped with 5 siphon spillways which act as overflow weirs until priming occurs (approximately 835.5 ft elevation). Capacity of reservoir is 733 acre-ft between elevations 761.5 (invert of outlet tunnel) and 835.0 ft (crest of siphon spillways). Dead storage negligible. Rated capacity of 3 siphons is 700 cfs each and remaining 2 siphons, 350 cfs each. Under normal operation, reservoir is filled in the spring (April or May) and drained when fall rains start. There is no planned storage during winter months; however, during periods of heavy runoff, inflow may be greater than capacity of outlet tunnel and there may be some temporary storage. Water is used for municipal supply of city of McMinnville.

Cooperation.--Elevations and capacity table furnished by city of McMinnville, Water and Light Department.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-ft)	Change in contents (acre-feet)
Sept. 30	806.4	252	-
Oct. 31	816.7	388	+136
Nov. 30	-	0	-388
Dec. 31	-	0	0
Calendar year 1966	-	-	0
Jan. 31	-	0	0
Feb. 28	-	0	0
Mar. 31	-	0	0
Apr. 30	835.0	733	+733
May 31	835.0	733	0
June 30	833.9	708	-25
July 31	823.0	489	-219
Aug. 31	805.9	247	-242
Sept. 30	798.5	170	-77
Water year 1966-67	-	-	-82

† Gage read at 0830 hrs.

14-1960. Haskins Creek below reservoir, near McMinnville, Oreg.

Location.--Lat 45°18'40", long 123°20'55", in NE¼ sec.18, T.3 S., R.5 W., on right bank 800 ft downstream from Haskins Creek Reservoir, 11 miles northwest of McMinnville, and at mile 5.0.

Drainage area.--6.90 sq mi.

Records available.--October 1951 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 707 ft above mean sea level (topographic survey of 1955). Prior to Aug. 5, 1952, graphic water-stage recorder at site 600 ft upstream at different datum. Aug. 5, 1952, to June 10, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--16 years, 32.1 cfs (23,240 acre-ft per year), adjusted for storage and diversion.

Extremes.--Maximum daily discharge during year, 325 cfs Dec. 13; minimum daily, 0.10 cfs Oct. 27, 28.

1951-67: Maximum daily discharge, 550 cfs (estimated) Dec. 23, 1964; minimum daily, 0.10 cfs Oct. 27, 28, 1966.

Remarks.--Records excellent except those below 5 cfs, which are fair. All records given herein include flow in pipeline which diverts 600 ft above station for municipal supply of McMinnville. Flow regulated by Haskins Creek Reservoir (see sta. no. 1955), but during winter months reservoir is empty except when inflow exceeds capacity of outlet tunnel.

Cooperation.--Meter readings for diversion and elevations of Haskins Creek Reservoir furnished by city of McMinnville.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.6	2.8	64	32	118	36	44	26	9.8	8.4	8.3	5.1
2	2.6	2.6	138	31	93	41	42	22	10	8.2	8.2	4.2
3	3.3	2.5	109	41	77	37	40	20	10	8.4	8.2	4.1
4	3.1	2.6	247	52	65	33	18	21	9.8	8.4	8.2	4.2
5	4.7	2.7	164	53	56	31	2.9	20	9.5	8.4	8.1	5.4
6	5.5	2.7	142	58	50	30	2.9	20	10	8.4	8.2	5.4
7	3.5	2.8	115	54	46	28	2.8	20	7.6	8.4	8.1	4.7
8	2.3	2.9	83	49	41	29	2.8	18	8.4	8.4	8.1	3.9
9	2.4	2.9	73	45	38	33	2.9	18	9.0	8.4	8.1	3.5
10	3.3	2.9	99	44	36	32	2.9	19	8.8	8.4	8.1	3.4
11	2.9	2.7	102	48	34	30	2.9	18	8.6	8.4	8.1	3.4
12	2.5	2.6	173	67	30	28	2.9	17	7.7	8.3	8.1	3.4
13	2.6	2.7	325	90	51	29	3.0	16	7.9	8.4	8.1	3.4
14	2.4	2.3	205	74	43	36	3.0	16	7.6	8.3	8.1	3.8
15	2.6	2.2	116	65	48	58	3.1	15	7.9	8.4	8.1	3.8
16	2.6	3.0	84	61	53	70	3.4	14	8.4	8.4	8.0	3.8
17	2.6	27	65	54	62	77	31	14	8.4	8.4	8.0	3.8
18	2.5	23	54	49	67	75	34	14	8.4	8.4	8.0	3.8
19	2.6	25	48	100	60	66	33	14	8.4	8.4	8.0	3.8
20	2.6	22	43	116	53	74	31	13	8.4	8.3	7.9	3.8
21	2.6	20	38	100	48	66	30	12	8.4	8.3	7.2	3.6
22	2.6	93	34	84	44	79	31	11	7.2	8.3	5.1	3.4
23	2.7	140	33	74	40	100	30	12	3.8	8.3	6.1	3.3
24	2.7	121	33	63	36	94	30	12	3.4	8.3	5.6	3.3
25	2.8	100	34	74	34	80	31	12	5.3	7.2	5.0	3.3
26	1.1	48	31	105	32	70	28	10	6.2	8.3	4.6	3.5
27	.10	14	28	199	30	60	26	9.1	8.2	8.3	5.2	3.9
28	.10	12	27	267	32	53	27	12	8.3	8.3	5.3	3.9
29	2.5	14	27	285	------	50	26	11	8.3	8.3	5.3	3.9
30	2.7	26	26	223	------	50	24	12	8.2	8.3	5.7	3.8
31	2.7	------	25	152	------	46	------	9.7	------	8.3	5.1	------
TOTAL	81.80	727.9	2,785	2,809	1,417	1,621	591.5	477.3	241.9	257.7	220.2	116.6
MEAN	2.64	24.3	89.8	90.6	50.6	52.3	19.7	15.4	8.06	8.31	7.10	3.89
MAX	5.5	140	325	285	118	100	44	26	10	8.4	8.3	5.4
MIN	.10	2.2	25	31	30	28	2.8	9.1	3.4	7.2	3.1	3.3
AC-FT	162	1,440	5,520	5,570	2,810	3,220	1,170	948	480	511	437	231

Adjusted for change in contents in Haskins Creek Reservoir

MEAN	4.85	17.6	89.8	90.6	50.6	52.4	31.9	15.4	7.65	4.75	3.17	2.59
CFSM	.70	2.55	13.0	13.1	7.33	7.59	4.62	2.23	1.11	.69	.46	.38
IN.	.81	2.85	15.00	15.14	7.64	8.75	5.16	2.58	1.24	.79	.53	.42
AC-FT	298	1,050	5,520	5,570	2,810	3,220	1,900	948	455	292	195	154

Observed									Adjusted						
CAL YR 1966:	TOTAL	12,893.70	MEAN	35.3	MAX	341	MIN	.10	AC-FT	25,570	MEAN	35.3	CFSM	5.12	IN.	69.48	AC-FT	25,570
WAT YR 1967:	TOTAL	11,347.40	MEAN	31.1	MAX	325	MIN	.10	AC-FT	22,510	MEAN	31.0	CFSM	4.49	IN.	60.95	AC-FT	22,430

Note.--No gage-height record July 20 to Aug. 27.

14-1970. North Yamhill River at Pike, Oreg.

Location.--Lat 45°22'10", long 123°15'15", in NW¼ sec.25, T.2 S., R.5 W., on right bank 500 ft downstream from Turner Creek, 0.5 mile southeast of Pike, 4.0 miles northwest of Yamhill, and at mile 20.5.

Drainage area.--66.8 sq mi.

Records available.--October 1948 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 192.66 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 21, 1950, graphic water-stage recorder at datum 1.02 ft higher. Aug. 21, 1950, to Aug. 12, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--19 years, 241 cfs (174,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,690 cfs Dec. 13 (gage height, 7.77 ft); minimum, 5.0 cfs Sept. 28.

1948-67: Maximum discharge, 9,530 cfs Dec. 21, 1955 (gage height, 12.42 ft), from rating curve extended above 2,600 cfs on basis of slope-area measurement of peak flow; minimum, 4.7 cfs Aug. 23, 1961.

Remarks.--Records excellent. Seasonal regulation by Haskins Creek Reservoir (see sta. no. 1955); occasional diurnal fluctuation caused by Haskins Creek Dam and smaller dams upstream. Water supply for city of McMinnville is diverted from Haskins Creek above station and that for city of Yamhill is diverted from Turner Creek above station. Small diversions above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	10	20	598	259	766	229	367	156	54	21	11	6.0
2	11	20	1,210	250	618	322	340	149	52	20	10	6.4
3	11	20	832	343	514	280	313	144	48	19	9.9	7.7
4	10	19	2,280	478	442	250	286	134	46	17	9.0	6.7
5	9.9	19	1,420	510	388	229	247	127	44	17	9.0	6.0
6	10	22	1,160	566	349	217	226	125	42	17	10	5.7
7	12	20	962	490	319	206	209	120	44	17	10	6.0
8	12	19	665	421	292	200	195	116	42	17	10	5.7
9	12	19	598	373	268	223	187	118	41	18	9.5	5.7
10	11	24	866	349	250	235	178	113	42	17	8.7	7.7
11	11	50	809	379	238	220	168	109	43	15	8.7	12
12	15	123	1,550	554	220	209	161	104	43	15	8.3	9.5
13	18	119	2,970	782	358	217	223	98	39	14	8.3	8.0
14	14	250	1,420	618	325	286	206	95	36	14	7.7	7.0
15	13	295	855	518	456	638	187	91	33	14	7.7	6.4
16	13	244	630	474	474	634	235	88	32	14	7.4	5.7
17	13	193	490	407	522	606	253	83	30	13	6.7	6.7
18	12	152	407	367	518	546	247	80	28	14	6.7	8.0
19	13	165	361	905	439	470	232	76	27	15	6.7	7.7
20	40	151	322	970	382	542	214	73	27	15	6.4	7.0
21	50	128	283	770	340	463	203	70	30	14	6.7	7.0
22	112	150	256	658	307	526	198	67	46	13	7.0	7.0
23	46	200	244	578	283	686	187	64	38	12	7.0	6.4
24	31	180	256	506	262	658	180	63	31	12	6.4	6.4
25	25	180	307	614	244	554	187	62	28	12	6.0	5.7
26	30	149	259	905	226	467	185	59	27	13	5.7	6.0
27	29	95	235	1,750	212	404	180	57	26	13	6.0	5.7
28	23	86	220	2,170	214	379	166	60	26	13	6.0	5.5
29	21	86	220	2,380	------	346	163	63	24	12	5.5	6.7
30	23	210	203	1,500	------	418	161	64	22	12	5.7	10
31	21	------	195	970	------	411	------	62	------	12	5.7	------
TOTAL	681.9	3,408	23,083	22,854	10,226	12,071	6,484	2,890	1,091	461	239.4	208.0
MEAN	22.0	114	745	737	365	389	216	93.2	36.4	14.9	7.72	6.93
MAX	112	295	2,970	2,380	766	686	367	156	54	21	11	12
MIN	9.9	19	195	250	212	200	161	57	22	12	5.5	5.5
CFSM	.33	1.70	11.1	11.0	5.47	5.83	3.24	1.40	.54	.22	.12	.10
IN.	.38	1.90	12.9	12.7	5.69	6.72	3.61	1.61	.61	.26	.13	.12
AC-FT	1,350	6,760	45,780	45,330	20,280	23,940	12,860	5,730	2,160	914	475	413

CAL YR 1966: TOTAL 93,958.1 MEAN 257 MAX 2,970 MIN 7.4 CFSM 3.85 IN 52.31 AC-FT 186,400
WAT YR 1967: TOTAL 83,697.3 MEAN 229 MAX 2,970 MIN 5.5 CFSM 3.43 IN 46.60 AC-FT 166,000

Peak discharge (base, 2,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	0800	7.45	3,400	1 -28	0100	7.06	3,050
12-13	0930	7.77	3,690				

14-1980. Willamette River at Wilsonville, Oreg.

Location.--Lat 45°17'31", long 122°46'05", in SE¼ sec.23, T.3 S., R.1 W., in upstream side of pier of bridge on Interstate Highway 5 at Wilsonville, 1.3 miles downstream from Corral Creek, 2.8 miles upstream from Molalla River, and at mile 38.5.

Drainage area.--8,400 sq mi, approximately.

Records available.--October 1948 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is mean sea level, datum of 1929. Prior to Oct. 1, 1954, staff gage at Butteville, 4.5 miles upstream at same datum. Oct. 1, 1954 to Oct. 18, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--19 years, 28,700 cfs (20,780,000 acre-ft per year).

Extremes.--Maximum discharge during year, 130,000 cfs Jan. 30 (elevation, 74.42 ft); minimum daily, 5,400 cfs Aug. 17, 18.
1948-67: Maximum discharge, 339,000 cfs Dec. 25, 1964 (elevation, 94.74 ft); minimum daily, 3,600 cfs Nov. 29, 30, 1952.
Maximum elevation known, about 105 ft at Wilsonville, Dec. 4, 1861.

Remarks.--Records excellent except those for periods of backwater, which are fair. Flow regulated by 11 reservoirs above station (see elsewhere in this report). Many diversions for irrigation above station. Records of water temperatures for the water year 1967 recorded by the Federal Water Pollution Control Administration at site 10.7 miles downstream are published as "Willamette River at Oregon City" in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7,000	12,500	28,600	21,800	103,000	20,100	22,300	17,700	13,800	7,500	5,800	6,000
2	8,000	12,000	30,600	22,200	88,600	22,500	20,900	16,500	13,700	7,000	5,800	6,400
3	9,000	11,500	34,700	22,700	79,300	25,000	19,500	15,400	13,000	7,000	5,800	6,600
4	10,000	11,000	36,700	25,700	69,300	25,300	18,400	14,600	11,600	6,800	5,600	6,800
5	10,500	10,000	53,000	32,700	61,600	23,100	17,800	14,100	10,800	6,600	5,600	7,000
6	10,500	10,000	70,000	40,000	52,300	20,600	17,500	14,000	10,300	6,600	5,600	7,000
7	11,000	10,500	75,100	41,800	43,100	19,000	16,800	14,000	10,400	6,600	5,600	7,500
8	11,000	11,000	74,400	39,200	37,500	18,200	15,900	13,800	10,400	6,600	5,600	7,500
9	11,000	11,500	71,400	34,900	33,100	17,900	15,400	14,600	10,000	6,600	5,600	7,500
10	11,000	13,000	66,200	30,200	27,400	18,800	15,100	15,600	10,000	6,800	5,600	7,500
11	10,000	16,000	68,100	29,600	23,400	21,100	14,900	16,400	9,500	6,800	5,600	7,500
12	9,500	25,000	73,300	30,900	22,100	21,200	14,100	15,900	9,000	6,600	5,800	8,000
13	9,500	35,000	83,800	38,600	21,200	19,500	13,800	14,900	9,000	6,400	5,800	8,500
14	9,500	45,000	95,600	56,300	21,800	18,800	15,600	14,200	8,500	6,400	5,800	8,000
15	9,500	60,000	97,100	60,800	24,200	21,700	17,800	13,800	8,000	6,200	5,600	7,500
16	9,500	70,000	91,000	57,300	28,200	27,700	17,600	13,800	8,000	6,200	5,600	7,500
17	9,500	70,000	79,200	51,200	30,200	28,400	18,300	14,000	8,000	6,200	5,400	7,500
18	9,000	60,000	60,800	44,700	39,400	29,300	19,200	14,200	7,500	6,000	5,400	7,500
19	8,900	55,000	48,000	40,100	51,100	31,800	18,700	14,500	7,500	6,200	5,600	7,500
20	8,500	50,000	43,200	48,100	47,200	31,900	18,200	14,100	7,500	6,200	5,600	7,500
21	10,000	47,400	40,400	65,100	38,300	30,000	17,400	13,900	7,500	6,200	5,600	7,500
22	14,000	43,800	36,500	74,600	31,900	27,700	16,400	13,800	7,500	6,000	5,600	7,500
23	20,000	40,500	32,500	76,500	28,500	27,300	15,600	13,600	9,000	6,000	5,600	7,500
24	20,000	38,100	29,600	69,000	25,500	30,600	16,600	13,100	11,000	6,000	5,800	7,500
25	18,000	36,400	30,000	57,300	23,600	32,500	16,500	13,200	11,000	6,000	5,800	7,500
26	15,000	36,200	31,900	49,900	22,900	29,800	16,600	13,700	10,000	5,800	5,800	7,500
27	13,000	38,500	29,400	58,700	21,600	26,900	17,900	13,800	9,000	5,800	5,800	7,500
28	13,000	39,100	25,200	91,800	20,100	24,300	19,200	13,700	8,000	6,000	5,800	7,500
29	13,500	36,200	22,900	116,000	------	22,400	19,400	13,300	7,500	6,000	5,800	7,500
30	13,000	31,100	23,100	129,000	------	21,900	18,700	13,200	8,000	5,800	6,200	7,500
31	13,000	------	22,200	123,000	------	22,400	------	13,500	------	5,800	6,000	------
TOTAL	354,900	986,300	1,604.5M	1,679.8M	1,116.4M	757,700	522,100	444,900	285,100	196,700	176,600	221,800
MEAN	11,450	32,880	51,760	54,190	39,870	24,440	17,400	14,350	9,503	6,345	5,697	7,393
MAX	20,000	70,000	97,100	129,000	103,000	32,500	22,300	17,700	13,800	7,500	6,200	8,500
MIN	7,000	10,000	22,200	21,800	20,100	17,900	13,800	13,100	7,500	5,800	5,400	6,000
AC-FT	703,900	1,956M	3,182M	3,332M	2,214M	1,503M	1,036M	882,400	565,500	390,100	350,300	439,900

CAL YR 1966: TOTAL 9,396,300 MEAN 25,740 MAX 157,000 MIN 5,000 AC-FT 18,640,000
WAT YR 1967: TOTAL 8,346,800 MEAN 22,870 MAX 129,000 MIN 5,400 AC-FT 16,560,000

Note.--Backwater from stoplogs, gates, powerplant, and locks at Oregon City Oct. 1 to Nov. 13, Mar. 17 to Sept. 30.
M Expressed in thousands

14-1985. Molalla River above Pine Creek near Wilhoit, Oreg.

Location.--Lat 45°00'35", long 122°28'45", in NE¼NE¼ sec.31, T.6 S., R.3 E., on right bank 0.5 mile upstream from Pine Creek, 5 miles southeast of Wilhoit, and at mile 32.5.

Drainage area.--97.0 sq mi at gaging cable 0.2 mile downstream.

Records available.--October 1935 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 791.35 ft above mean sea level (Bureau of Public Roads bench mark). Oct. 1, 1935, to Sept. 30, 1945, and Oct. 1, 1945, to Feb. 9, 1961, graphic water-stage recorder at site 0.3 mile downstream at datums 8.42 and 10.44 ft lower, respectively. Feb. 10, 1961, to July 21, 1966, graphic water-stage recorder at site 0.2 mile downstream at datum 5.99 ft lower. July 22 to Sept. 13, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--32 years, 536 cfs (388,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,600 cfs Jan. 28 (gage height, 7.66 ft); minimum, 22 cfs Sept. 27-29.

1935-67: Maximum discharge, 24,300 cfs Dec. 22, 1964 (gage height, 16.3 ft, from floodmark, site and datum then in use), from rating curve extended above 5,200 cfs on basis of logarithmic plotting; minimum, 18 cfs Oct. 3, 1965.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report. Records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	30	107	501	619	1,220	543	385	329	329	91	40	24
2	33	97	541	566	1,000	513	380	329	340	86	38	24
3	34	87	551	993	823	445	384	331	319	82	37	24
4	30	81	974	1,130	726	407	409	371	308	78	36	24
5	29	94	1,180	943	666	377	413	410	298	75	36	24
6	28	205	1,100	749	592	364	375	496	280	72	36	24
7	29	165	946	634	523	354	371	583	259	71	36	23
8	35	150	716	552	468	342	392	687	238	68	36	24
9	37	158	625	502	434	397	382	817	218	68	35	23
10	32	398	1,800	522	412	380	363	669	203	66	33	24
11	30	1,280	1,950	776	396	343	348	531	195	63	33	53
12	47	2,290	3,670	741	375	315	342	459	188	61	32	47
13	73	1,260	4,810	2,270	429	309	468	414	180	59	31	34
14	51	3,870	2,930	1,940	395	295	450	421	175	58	30	29
15	44	3,680	1,720	1,590	395	374	407	492	175	56	30	27
16	41	2,240	1,190	1,390	402	562	411	658	175	54	29	25
17	40	1,480	908	1,030	990	740	382	774	170	53	28	25
18	38	962	739	800	1,600	900	372	696	161	52	28	26
19	37	817	649	951	979	723	345	630	150	52	28	26
20	183	747	645	1,750	727	680	333	680	146	51	27	26
21	194	621	558	1,210	607	665	329	696	166	51	27	26
22	543	508	483	894	530	712	334	636	196	49	27	25
23	439	427	448	707	474	1,080	358	540	168	48	27	25
24	304	370	457	596	447	971	369	426	147	47	26	24
25	211	449	524	572	439	777	398	354	135	46	26	23
26	178	564	484	1,020	410	666	413	315	124	45	25	23
27	170	475	425	3,370	384	576	407	305	118	44	25	22
28	139	413	386	4,860	434	521	377	322	109	43	25	22
29	123	364	422	3,680	------	469	350	378	103	42	24	26
30	139	408	470	2,730	------	436	332	431	98	41	24	54
31	120	------	450	1,710	------	404	------	370	------	40	24	------
TOTAL	3,461	24,767	33,252	41,797	17,277	16,640	11,379	15,550	5,871	1,812	939	826
MEAN	112	826	1,073	1,348	617	537	379	502	196	58.5	30.3	27.5
MAX	543	3,870	4,810	4,860	1,600	1,080	468	817	340	91	40	54
MIN	28	81	386	502	375	295	329	305	98	40	24	22
AC-FT	6,860	49,120	65,950	82,900	34,270	33,000	22,570	30,840	11,640	3,590	1,860	1,640
CFSM	1.15	8.52	11.1	13.9	6.36	5.54	3.91	5.18	2.02	.60	.31	.28
IN	1.33	9.50	12.7	16.0	6.62	6.38	4.36	5.96	2.25	.69	.36	.32

CAL YR 1966: TOTAL 200,279 MEAN 549 MAX 6,380 MIN 27 AC-FT 397,200 CFSM 5.66 INCHES 76.79
WAT YR 1967: TOTAL 173,571 MEAN 476 MAX 4,860 MIN 22 AC-FT 344,300 CFSM 4.91 INCHES 66.55

Peak discharge (base, 3,600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	0100	6.91	4,440	1-28	0300	7.66	5,600
12-13	0730	7.41	5,200				

14-2000. Molalla River near Canby, Oreg.

Location.--Lat 45°14'40", long 122°41'10", in NW¼NE¼ sec.9, T.4 S., R.1 E., on left bank at upstream side of Good's bridge, 1.5 miles south of Canby, and at mile 6.01.

Drainage area.--323 sq mi.

Records available.--August 1928 to September 1959, October 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 104.00 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 24, 1933, staff gage and Oct. 24, 1933, to Sept. 26, 1955, graphic water-stage recorder at present site and at datum 1.00 ft higher. Graphic water-stage recorder Sept. 27, 1955, to June 3, 1956, 145 ft downstream at present datum, and June 4, 1956, to Sept. 30, 1959, 0.3 mile downstream at datum 1.98 ft lower. Oct. 1, 1963, to May 4, 1964, staff gage and May 5, 1964, to Dec. 14, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--35 years, 1,130 cfs (818,100 acre-ft per year).

Extremes.--Maximum discharge during year, 9,710 cfs Jan. 28 (gage height, 9.07 ft); minimum, 29 cfs Aug. 18.

1928-59, 1963-67: Maximum discharge, 43,600 cfs Dec. 22, 1964 (gage height, 16.76 ft); minimum, 20 cfs Aug. 27, 1959.

Remarks.--Records good. No regulation. Numerous small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	74	246	985	1,420	2,800	1,340	1,190	710	610	157	70	32
2	72	218	1,110	1,410	2,320	1,490	1,110	675	640	145	70	32
3	79	198	1,130	1,820	1,960	1,490	1,060	675	610	140	66	34
4	76	182	1,990	2,330	1,740	1,330	1,050	731	562	118	68	35
5	71	174	3,040	2,410	1,600	1,180	1,060	780	544	113	70	32
6	68	341	2,720	2,130	1,420	1,080	932	892	508	106	75	37
7	72	368	2,560	1,940	1,260	1,000	868	1,020	472	103	75	35
8	75	335	2,120	1,660	1,140	932	876	1,180	415	101	77	35
9	89	329	1,780	1,490	1,030	1,020	852	1,510	385	103	79	34
10	86	803	3,170	1,430	949	1,060	804	1,320	355	99	47	34
11	79	1,810	3,590	1,870	908	932	780	1,050	335	94	47	41
12	82	4,270	5,180	1,870	876	852	724	892	325	92	42	85
13	144	2,640	7,000	4,000	1,020	852	949	812	310	88	39	73
14	142	6,710	5,260	4,440	1,030	812	1,120	780	297	85	38	57
15	116	7,130	3,410	3,460	1,060	1,150	1,080	852	283	83	38	50
16	104	4,960	2,490	3,160	1,120	1,470	1,110	1,080	274	83	38	47
17	97	3,500	2,010	2,490	1,920	1,770	1,080	1,310	261	79	35	45
18	92	2,380	1,690	2,050	3,440	2,110	985	1,210	253	75	32	48
19	89	1,980	1,490	2,000	2,440	1,930	924	1,060	233	79	31	52
20	164	1,880	1,530	3,710	1,890	1,760	860	1,100	237	77	34	55
21	487	1,530	1,460	3,000	1,580	1,640	804	1,190	253	77	37	54
22	694	1,320	1,320	2,340	1,360	1,630	780	1,100	466	75	38	52
23	820	1,110	1,180	1,940	1,210	2,160	812	967	410	73	37	50
24	632	932	1,140	1,660	1,110	2,200	796	759	325	73	35	48
25	434	900	1,380	1,510	1,060	1,890	868	640	283	72	37	45
26	345	1,340	1,400	1,710	967	1,660	958	550	257	70	37	44
27	377	1,150	1,260	4,800	884	1,440	940	514	229	72	34	44
28	302	1,040	1,130	8,530	892	1,300	892	514	211	68	31	42
29	260	908	1,130	6,580	------	1,220	820	622	187	66	34	44
30	304	868	1,300	5,500	------	1,170	766	796	167	70	32	72
31	291	------	1,200	3,730	------	1,240	------	766	------	70	35	------
TOTAL	6,817	51,552	68,155	88,390	40,986	43,110	27,850	28,057	10,697	2,806	1,458	1,388
MEAN	220	1,718	2,199	2,851	1,464	1,391	928	905	357	90.5	47.0	46.3
MAX	820	7,130	7,000	8,530	3,440	2,200	1,190	1,510	640	157	79	85
MIN	68	174	985	1,410	876	812	724	514	167	66	31	32
AC-FT	13,520	102,300	135,200	175,300	81,290	85,510	55,240	55,650	21,220	5,570	2,890	2,750
CFSM	.681	5.32	6.81	8.83	4.53	4.31	2.87	2.80	1.11	.280	.146	.143
IN	.78	5.94	7.85	10.18	4.72	4.96	3.21	3.23	1.23	.32	.17	.16

CAL YR 1966: TOTAL 417,800 MEAN 1,145 MAX 11,100 MIN 45 AC-FT 828,700 CFSM 3.54 INCHES 48.11
WAT YR 1967: TOTAL 371,266 MEAN 1,017 MAX 8,530 MIN 31 AC-FT 736,400 CFSM 3.15 INCHES 42.75

Peak discharge (base, 7,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-14	1800	8.55	8,380				
12-13	1530	8.15	7,380				
1-28	1100	9.07	9,710				

14-2003. Silver Creek at Silverton, Oreg.

Location.--Lat 45°00'34", long 122°47'15", in NE¼ sec.34, T.6 S., R.1 W., on right bank 300 ft downstream from railroad bridge in Silverton, 2.5 miles upstream from Brush Creek, and at mile 3.4.

Drainage area.--47.9 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 218.5 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 7, 1965, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 1,440 cfs Jan. 28 (gage height, 5.67 ft); minimum, 2.0 cfs Aug. 20, 21.

1963-67: Maximum discharge, 5,900 cfs Dec. 22, 1964 (gage height, 11.15 ft); minimum, 2.0 cfs Aug. 20, 21, 1967.

Remarks.--Records excellent. No regulation. Several small diversions for irrigation and municipal use above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.2	33	183	226	560	229	229	149	75	16	6.3	3.7
2	7.8	29	215	210	473	228	210	143	74	14	6.3	3.6
3	8.9	26	211	365	394	206	196	138	60	13	5.7	3.7
4	8.8	25	429	427	346	191	190	134	53	13	5.3	3.7
5	7.5	26	609	402	303	178	208	132	48	12	5.2	3.7
6	7.2	64	581	368	269	168	182	133	44	12	5.1	3.5
7	7.9	46	558	336	242	159	170	132	43	12	5.9	3.1
8	10	40	471	300	218	152	165	132	42	12	5.8	3.6
9	13	37	416	273	195	183	169	157	41	13	5.4	4.2
10	11	84	560	259	179	190	164	145	40	12	4.8	4.8
11	9.1	249	547	333	170	169	156	132	40	11	4.4	7.5
12	12	448	631	348	158	160	146	118	39	11	4.4	14
13	20	417	748	939	197	164	285	107	36	11	4.1	10
14	16	1,020	690	757	184	159	302	100	32	11	3.6	6.4
15	12	882	545	640	225	176	284	95	30	10	3.6	4.7
16	11	739	444	555	239	216	297	94	28	9.3	3.6	4.0
17	10	534	368	456	530	272	280	93	26	8.7	3.2	4.8
18	9.4	395	314	386	689	356	261	87	24	9.2	2.9	6.1
19	9.8	371	275	410	483	319	238	79	23	9.3	2.8	6.3
20	44	315	311	596	383	299	217	75	22	9.3	2.4	6.1
21	70	261	256	560	320	267	200	68	28	9.2	2.7	5.8
22	92	217	227	471	278	257	187	63	38	8.8	2.9	5.2
23	78	185	220	403	249	320	179	58	37	8.4	3.2	5.0
24	55	165	231	352	225	335	172	54	28	7.9	3.2	5.0
25	39	193	281	343	220	296	189	52	24	7.6	3.3	4.6
26	37	211	249	436	190	280	205	48	21	7.8	2.8	4.2
27	60	174	225	881	173	251	193	46	21	8.2	3.0	3.4
28	40	159	206	1,230	180	245	181	52	19	7.5	2.8	3.7
29	34	145	211	1,040	------	246	168	70	18	7.2	3.2	5.4
30	48	147	202	847	------	253	158	106	17	7.0	3.6	11
31	40	------	187	637	------	248	------	102	------	6.4	3.6	------
TOTAL	836.6	7,637	11,601	15,786	8,272	7,172	6,181	3,094	1,071	314.8	125.3	160.8
MEAN	27.0	255	374	509	295	231	206	99.8	35.7	10.2	4.04	5.36
MAX	92	1,020	748	1,230	689	356	302	157	75	16	6.3	14
MIN	7.2	25	183	210	158	152	146	46	17	6.4	2.4	3.1
AC-FT	1,660	15,150	23,010	31,310	16,410	14,230	12,260	6,140	2,120	624	249	319
CFSM	.564	5.32	7.81	10.6	6.16	4.82	4.30	2.08	.745	.213	.084	.112
IN	.65	5.93	9.01	12.26	6.42	5.57	4.80	2.40	.83	.24	.10	.12

CAL YR 1966: TOTAL 67,522.2 MEAN 185 MAX 1,810 MIN 4.1 AC-FT 133,900 CFSM 3.86 INCHES 52.42
WAT YR 1967: TOTAL 62,251.5 MEAN 171 MAX 1,230 MIN 2.4 AC-FT 123,500 CFSM 3.57 INCHES 48.33

Peak discharge (base, 1,200 cfs).--Jan. 28 (0300 hrs) 1,440 cfs (5.67 ft).

14-2015. Butte Creek at Monitor, Oreg.

Location.--Lat 45°06'06", long 122°44'42", in SE¼SE¼ sec.25, T.5 S., R.1 W., on left bank at downstream side of highway bridge at Monitor and at mile 7.7.

Drainage area.--58.7 sq mi (revised).

Records available.--January to December 1936, October 1940 to September 1952, October 1966 to September 1967. Monthly discharge only for January to December 1936, published in WSP 1318.

Gage.--Digital water-stage recorder. Altitude of gage is 155 ft (from topographic map). Jan. 20 to Oct. 22, 1936, staff gage at present site at different datum. Oct. 23 to Dec. 19, 1936, staff gage at site 70 ft downstream at different datum. Oct. 1, 1940, to Sept. 30, 1952, staff gage at present site at datum 151.35 ft above mean sea level, datum of 1929.

Average discharge.--13 years (1940-52, 1966-67) 221 cfs (160,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,430 cfs Jan. 28 (gage height, 7.94 ft); minimum, 0.15 cfs Aug. 25, 1967.

1936, 1940-52, 1966-67: Maximum discharge, 5,600 cfs Feb. 17, 1949 (gage height, 13.5 ft, from graph based on gage readings, datum then in use); minimum, 0.15 cfs Aug. 25, 1967.

Remarks.--Records excellent. Some fluctuations by mills at Scotts Mills during low flow. Diversions for irrigation by pumping above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.4	32	185	188	603	248	246	141	91	15	2.4	2.1
2	7.7	29	242	177	488	265	227	136	92	13	2.0	2.4
3	8.3	27	245	247	408	255	214	136	82	13	2.1	2.4
4	8.6	25	572	337	356	230	210	142	74	8.8	3.0	2.8
5	7.6	25	771	378	314	209	217	151	67	8.7	3.8	2.7
6	7.0	46	647	350	276	193	196	169	61	7.1	4.2	2.4
7	7.6	44	632	320	244	179	187	176	56	7.5	4.6	2.6
8	8.6	39	504	280	219	167	182	185	52	8.1	4.3	2.3
9	11	37	419	247	199	182	177	230	48	8.0	4.9	1.6
10	10	63	649	227	184	189	168	191	44	7.5	4.3	1.5
11	9.0	178	705	290	175	170	158	163	44	4.7	2.7	5.2
12	10	532	1,040	297	163	158	150	143	40	2.9	2.7	12
13	20	348	1,430	524	208	156	232	131	36	2.3	1.7	8.2
14	18	1,210	994	562	210	149	269	131	34	3.1	1.9	5.2
15	14	1,160	660	515	269	195	265	137	31	3.2	1.4	3.1
16	11	808	482	477	279	231	274	157	28	4.1	1.9	2.2
17	10	533	380	406	368	290	263	172	25	5.0	1.6	2.2
18	9.7	374	312	346	543	389	240	161	24	1.3	1.1	2.9
19	10	339	267	423	435	354	218	146	23	2.0	.68	3.4
20	27	315	277	730	354	329	201	146	23	2.5	.65	3.6
21	63	259	235	598	301	295	185	148	26	2.5	.74	3.6
22	78	212	208	466	264	299	179	140	41	2.3	.73	3.4
23	80	181	196	383	236	424	175	124	35	1.1	.76	2.9
24	57	157	200	323	216	427	170	105	28	1.8	.79	2.3
25	42	159	229	298	206	369	181	92	25	1.6	.68	2.3
26	39	197	216	334	187	328	198	82	23	2.0	.81	1.8
27	45	168	199	1,010	171	287	184	77	21	2.8	1.5	1.6
28	36	153	184	1,900	183	267	171	79	20	3.4	2.1	1.3
29	32	139	182	1,490	------	257	158	104	18	3.7	1.5	1.9
30	41	151	179	1,140	------	268	149	128	15	3.2	1.4	6.4
31	39	------	165	765	------	267	------	108	------	4.4	1.5	------
TOTAL	775.5	7,940	13,606	16,028	8,059	8,026	6,044	4,331	1,227	156.6	64.44	98.3
MEAN	25.0	265	439	517	288	259	201	140	40.9	5.05	2.08	3.28
MAX	80	1,210	1,430	1,900	603	427	274	230	92	15	4.9	12
MIN	7.0	25	165	177	163	149	149	77	15	1.1	.65	1.3
CFSM	.43	4.51	7.48	8.81	4.90	4.41	3.43	2.38	.70	.09	.04	.06
IN.	.49	5.03	8.62	10.2	5.11	5.08	3.83	2.74	.78	.10	.04	.06

CAL YR 1966: TOTAL	MEAN	MAX	MIN	CFSM	IN
WAT YR 1967: TOTAL 66,355.84	MEAN 182	MAX 1,900	MIN .65	CFSM 3.10	IN 42.04

Peak discharge (base, 1,500 cfs, revised).--Dec. 13 (1430 hrs) 1,550 cfs (7.00 ft); Jan. 28 (0500 hrs) 2,430 cfs (7.94 ft).

14-2030. Scoggins Creek near Gaston, Oreg.

Location.--Lat 45°27'32", long 123°09'16", on line between secs. 26 and 27, T.1 S., R.4 W., on left bank 100 ft upstream from bridge on State Highway 47 (Tualatin Valley Highway), 1.7 miles northwest of Gaston, and at mile 1.71.

Drainage area.--43.3 sq mi.

Records available.--October 1940 to September 1967. Prior to October 1963, published as "Scoggin Creek."

Gage.--Digital water-stage recorder. Datum of gage is 168.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1947, graphic water-stage recorder at site 300 ft upstream at same datum. Oct. 1, 1947, to June 7, 1950, staff gage at site 150 ft upstream at same datum. June 8, 1950, to June 25, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 139 cfs (100,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,870 cfs Dec. 13 (gage height, 14.07 ft); minimum, 0.27 cfs Aug. 11.

1940-67: Maximum discharge, 5,320 cfs Dec. 21, 1955 (gage height, 15.94 ft); minimum, 0.10 cfs Aug. 28, Sept. 30, Oct. 1, 3, 1958, Aug. 23, 24, 1961.

Remarks.--Records good above 10 cfs, poor below. Some diurnal fluctuation caused by logponds above station. Diversions by pumping for irrigation of 420 acres above station. Part of water supply for Hillsboro is diverted from Sein Creek above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.7	11	315	146	533	116	222	81	31	11	1.5	.55
2	4.1	10	626	138	447	135	208	75	28	9.5	1.5	.49
3	4.4	9.9	519	195	370	128	195	73	27	8.3	2.6	1.5
4	4.3	9.5	1,120	320	321	116	183	70	26	7.3	2.3	1.6
5	2.4	9.2	856	367	273	109	168	65	24	7.3	2.2	1.4
6	4.2	9.8	659	357	238	107	154	65	20	7.3	2.8	1.0
7	5.1	9.9	602	333	215	101	143	63	18	6.6	2.7	1.2
8	5.9	9.3	470	298	192	98	133	61	20	3.2	.82	.82
9	5.7	6.2	395	253	168	107	126	60	23	4.7	.49	.78
10	4.9	12	567	229	157	121	121	58	23	4.7	.41	1.6
11	2.9	21	565	247	148	116	112	58	24	5.3	.27	4.4
12	4.6	134	863	323	138	112	105	55	26	6.2	1.2	12
13	5.2	90	2,370	483	198	114	123	54	22	5.9	.49	8.7
14	2.8	193	1,170	387	186	135	114	51	19	3.3	.35	2.7
15	7.3	245	636	333	222	344	109	50	16	5.9	1.1	2.2
16	7.1	203	475	298	229	408	126	45	17	5.5	.66	2.6
17	6.7	191	375	250	253	404	128	42	16	5.3	1.2	2.8
18	6.7	137	308	222	276	363	121	42	15	4.2	.95	1.5
19	6.8	137	253	417	247	308	116	43	14	1.4	.66	.91
20	18	139	218	573	222	341	109	40	14	3.2	.58	1.1
21	38	109	186	498	195	310	103	38	16	5.3	.41	1.0
22	141	85	165	426	174	320	101	36	26	4.7	.62	2.2
23	36	72	157	375	160	431	94	31	25	4.6	.74	2.1
24	20	60	154	328	148	431	90	34	19	4.2	.31	1.9
25	13	73	208	359	140	364	90	36	16	1.3	.43	1.7
26	13	85	177	494	130	315	85	33	16	1.7	.55	1.1
27	16	72	160	878	121	262	86	33	16	3.0	.41	.52
28	13	61	146	1,480	118	235	81	34	16	4.0	.38	.41
29	12	53	143	1,420	------	212	79	36	14	3.8	.46	.46
30	13	212	133	1,030	------	225	81	36	13	3.6	.43	.70
31	12	------	126	661	------	238	------	36	------	3.2	.41	------
TOTAL	437.8	2,468.8	15,117	14,118	6,219	7,126	3,706	1,534	600	155.5	29.93	61.94
MEAN	14.1	82.3	488	455	222	230	124	49.5	20.0	5.02	.97	2.06
MAX	141	245	2,370	1,480	533	431	222	81	31	11	2.8	12
MIN	1.7	6.2	126	138	118	98	79	31	13	1.3	.27	.41
AC-FT	868	4,900	29,980	28,000	12,340	14,130	7,350	3,040	1,190	308	59	123
CFSM	.326	1.90	11.3	10.5	5.13	5.31	2.86	1.14	.462	.116	.022	.476
IN	.38	2.12	12.98	12.13	5.34	6.12	3.18	1.32	.52	.13	.03	.05

CAL YR 1966: TOTAL 57,986.90 MEAN 159 MAX 2,370 MIN .70 AC-FT 115,000 CFSM 3.67 INCHES 49.80
WAT YR 1967: TOTAL 51,573.97 MEAN 141 MAX 2,370 MIN .27 AC-FT 102,300 CFSM 3.26 INCHES 44.30

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1300	11.49	1,420				
12-13	1500	14.07	2,870				
1-28	0630	12.35	1,680				

14-2035. Tualatin River near Dilley, Oreg.

Location.--Lat 45°28'30", long 123°07'23", in NE¼NW¼ sec.24, T.1 S., R.4 W., on left bank 5 ft upstream from highway bridge, 1.0 mile south of Dilley, 1.2 miles downstream from Scoggins Creek, and at mile 58.81.

Drainage area.--125 sq mi.

Records available.--October 1939 to September 1967. Prior to October 1940 monthly discharge only published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 147.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 16, 1950, chain, wire-weight, or staff gage at several sites within 200 ft of present site at datum 4.00 ft higher. June 16, 1950 to July 9, 1964, graphic water-stage recorder, and July 10, 1964 to Aug. 10, 1966, digital water-stage recorder at present site at datum 4.00 ft higher.

Average discharge.--28 years, 397 cfs (287,400 acre-ft per year).

Extremes.--Maximum discharge during year, 6,600 cfs Dec. 13 (gage height, 18.42 ft); minimum, 0.08 cfs Sept. 3.

1939-67: Maximum discharge, 17,100 cfs Dec. 22, 1964 (gage height, 19.34 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; minimum, 0.08 cfs Sept. 3, 1967.

Remarks.--Records good above 10 cfs, fair below. Diurnal fluctuation caused by dam below Gaston. Diversions above station for municipal water supply and irrigation, chiefly in Wapato Lake area. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.7	34	628	445	1,610	354	653	256	83	17	1.8	.12
2	4.7	31	1,360	438	1,280	408	610	240	76	15	.76	.10
3	7.7	30	1,590	558	1,060	402	571	231	73	16	1.0	.26
4	7.7	27	2,190	731	905	365	533	221	70	14	1.6	1.5
5	5.6	26	2,730	912	786	344	498	209	62	13	1.5	1.7
6	7.5	28	2,230	867	700	329	462	201	56	11	2.3	.65
7	9.3	28	1,980	854	620	314	428	190	52	7.6	3.0	.62
8	10	26	1,550	750	557	304	404	181	54	2.8	1.6	.70
9	9.6	21	1,170	702	498	333	383	177	58	4.6	.65	.65
10	9.2	31	1,420	621	455	364	360	173	57	6.3	.45	1.1
11	7.3	40	1,620	685	423	351	336	169	58	3.6	.21	1.4
12	7.7	314	1,920	708	399	335	314	162	63	4.6	.39	11
13	13	222	4,680	1,220	527	337	373	155	53	5.8	1.4	9.6
14	11	454	3,470	1,120	544	365	372	149	50	2.5	.42	2.8
15	11	659	2,010	921	600	768	353	142	38	5.6	.21	1.8
16	12	531	1,510	839	653	942	377	135	38	6.3	.28	1.7
17	11	417	1,120	738	720	1,020	404	120	39	5.4	.20	1.8
18	11	316	918	648	825	981	390	118	37	4.6	.53	1.8
19	9.8	288	777	765	742	867	381	112	34	2.3	.88	.94
20	28	288	702	1,510	640	881	364	112	28	2.3	.70	.57
21	76	250	600	1,380	565	860	344	102	34	7.8	.57	.49
22	324	219	531	1,150	506	827	330	97	55	6.8	.42	.94
23	152	188	491	1,010	471	1,040	312	89	65	6.1	.39	2.1
24	84	165	480	905	438	1,150	297	90	50	4.6	.70	2.1
25	55	173	583	903	411	1,010	294	90	42	2.5	.61	1.9
26	46	217	546	1,120	380	884	286	87	32	1.5	.88	1.7
27	56	192	506	1,710	355	767	285	85	34	2.2	.82	.94
28	45	180	467	3,050	343	702	270	90	35	4.6	.70	.53
29	37	159	448	3,170	------	642	259	93	30	4.6	.76	.42
30	42	326	429	2,750	------	642	259	93	26	4.6	.45	.49
31	38	------	400	2,020	------	706	------	95	------	3.6	.18	------
TOTAL	1,153.8	5,880	41,056	35,200	18,013	19,594	11,502	4,464	1,482	199.2	26.36	52.62
MEAN	37.2	196	1,324	1,135	643	632	383	144	49.4	6.43	.85	1.75
MAX	324	659	4,680	3,170	1,610	1,150	653	256	83	17	3.0	11
MIN	4.7	21	400	438	343	304	259	85	26	1.5	.18	.10
AC-FT	2,290	11,660	81,430	69,820	35,730	38,860	22,810	8,850	2,940	395	52	104
CFSM	.298	1.57	10.6	9.08	5.14	5.06	3.06	1.15	.395	.051	.007	.01
IN	.34	1.75	12.2	10.5	5.36	5.83	3.42	1.33	.44	.06	.008	.02

CAL YR 1966: TOTAL 167,418.60 MEAN 459 MAX 5,140 MIN .20 AC-FT 332,100 CFSM 3.67 IN 49.81
WAT YR 1967: TOTAL 138,622.98 MEAN 380 MAX 4,680 MIN .10 AC-FT 275,000 CFSM 3.04 IN 41.24

Peak discharge (base, 4,000 cfs).--Dec. 13 (2030 hrs.) 6,600 cfs (18.42 ft).

14-2040. Gales Creek near Gales Creek, Oreg.

Location.--Lat 45°38'30", long 123°15'55", in NW¼SE¼ sec.23, T.2 N., R.5 W., on right bank 0.5 mile downstream from Beaver Creek, 4.6 miles northwest of town of Gales Creek, and at mile 17.5.

Drainage area.--33.2 sq mi.

Records available.--October 1935 to September 1945, October 1963 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 449.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Feb. 3, 1964, staff gage at same site and datum. Feb. 4, 1964, to Aug. 12, 1964, graphic water-stage recorder at present site and datum.

Average discharge.--14 years, 112 cfs (81,080 acre-ft per year).

Extremes.--Maximum discharge during year, 2,830 cfs Dec. 13 (gage height, 7.63 ft); minimum, 1.7 cfs Sept. 28.

1935-45, 1963-67: Maximum discharge, 3,970 cfs Dec. 22, 1964 (gage height, 8.63 ft); minimum, 1.7 cfs Sept. 28, 1967.

Remarks.--Records good except those for period of backwater from rock dam, which are fair. No regulation or diversion above station.

Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.2	11	227	151	421	110	192	67	30	13	6.9	4.0
2	4.3	10	441	149	337	124	181	65	28	12	6.9	5.0
3	4.1	9.9	391	203	278	119	171	62	28	11	6.6	5.2
4	3.9	9.9	813	328	243	110	161	60	26	11	5.7	3.8
5	3.7	9.5	605	388	209	106	149	57	26	10	5.7	3.0
6	4.0	9.9	526	379	187	101	138	56	24	10	6.0	3.0
7	4.7	9.9	477	355	169	97	127	55	24	10	6.9	2.8
8	4.6	9.2	357	304	153	94	120	54	24	10	6.9	2.6
9	4.3	9.2	289	262	140	101	113	52	24	10	6.2	2.5
10	4.0	10	488	243	129	106	106	54	23	10	6.0	4.5
11	4.0	25	520	253	120	103	101	53	23	10	5.7	5.7
12	6.2	85	1,000	307	115	100	98	50	23	10	5.4	4.7
13	6.8	63	2,300	428	181	103	120	47	21	10	5.0	3.6
14	5.9	140	1,050	364	163	124	109	45	20	10	4.7	3.2
15	6.2	172	579	313	181	230	101	44	19	9.5	4.2	3.0
16	5.8	108	404	278	200	313	112	43	18	9.5	3.6	2.8
17	5.5	79	307	243	230	310	110	42	16	9.5	3.7	3.0
18	5.5	62	248	219	243	280	107	40	16	9.5	4.2	3.6
19	5.8	64	216	466	223	248	103	40	15	9.8	4.7	3.4
20	20	60	192	664	198	263	98	38	16	9.4	4.7	3.4
21	33	56	167	537	179	243	94	36	18	9.5	5.2	3.2
22	81	49	151	435	161	283	91	34	32	9.1	5.2	3.2
23	33	44	143	364	147	407	86	34	26	8.4	5.0	3.0
24	21	40	149	307	136	425	82	32	20	8.1	5.0	2.8
25	16	42	181	298	125	358	82	32	18	8.1	5.0	2.6
26	16	43	169	394	115	298	77	32	17	8.4	4.5	2.8
27	14	41	155	840	109	255	75	32	17	8.4	4.7	2.3
28	13	38	143	1,170	109	230	72	32	16	7.8	4.2	2.0
29	12	42	141	1,010	------	207	71	34	15	7.8	4.2	2.8
30	13	121	131	755	------	203	70	36	14	7.5	4.2	4.0
31	12	------	125	533	------	200	------	34	------	7.5	4.0	------
TOTAL	377.5	1,472.5	13,085	12,940	5,201	6,251	3,317	1,392	637	294.8	160.9	101.5
MEAN	12.2	49.1	422	417	186	202	111	44.9	21.2	9.51	5.19	3.38
MAX	81	172	2,300	1,170	421	425	192	67	32	13	6.9	5.7
MIN	3.7	9.2	125	149	109	94	70	32	14	7.5	3.6	2.0
AC-FT	749	2,920	25,950	25,670	10,320	12,400	6,580	2,760	1,260	585	319	201
CFSM	.367	1.48	12.7	12.6	5.60	6.08	3.34	1.35	.639	.286	.156	.102
IN	.42	1.65	14.66	14.50	5.83	7.00	3.72	1.56	.71	.33	.18	.11

CAL YR 1966: TOTAL 51,657.1 MEAN 142 MAX 2,300 MIN 2.7 AC-FT 102,500 CFSM 4.28 INCHES 57.87
WAT YR 1967: TOTAL 45,230.2 MEAN 124 MAX 2,300 MIN 2.0 AC-FT 89,710 CFSM 3.73 INCHES 50.67

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	0930	5.22	1,040				
12-13	0900	7.63	2,830				
1-19	1830	4.77	830				
1-28	0100	5.71	1,360				

Note.--Backwater from rock dam Aug. 9 to Sept. 30.

14-2075. Tualatin River at West Linn, Oreg.

Location.--Lat 45°21'03", long 122°40'30", in SW¼ sec.34, T.2 S., R.1 E., on left bank 300 ft upstream from bridge on State Highway 212, 0.4 mile west of West Linn city limits, and at mile 1.8.

Drainage area.--706 sq mi.

Records available.--July 1928 to September 1967. Prior to October 1960, published as "near Willamette."

Gage.--Digital water-stage recorder. Datum of gage is 85.61 ft above mean sea level (levels by Corps of Engineers). Prior to June 12, 1941, staff gage at datum 1.02 ft higher. June 12, 1941, to June 25, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--39 years, 1,489 cfs (1,078,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs Feb. 1; minimum daily, 10 cfs Sept. 5, 6.

1928-67: Maximum discharge, 29,300 cfs Dec. 23, 1933; minimum daily, 10 cfs Sept. 5, 6, 1967.

Remarks.--Records good. All records given herein include daily flow of Oswego Canal since October 1951. Prior to October 1951, Oswego Canal and Tualatin River were published separately, but river record included adjusted monthly and average discharge figures for flow in canal. Oswego Canal diverts at point 5.0 miles above station for recreational use in Lake Oswego and development of power between outlet of that lake and Willamette River. Some regulation in low-water season by flashboards on crest of diversion dam for Oswego Canal. Several diversions above station for irrigation. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	72	174	591	1,840	10,500	1,450	3,270	974	426	112	25	13
2	64	166	1,270	1,790	10,300	1,460	3,080	930	409	61	29	12
3	65	157	2,170	1,840	9,360	1,520	2,890	893	380	67	26	11
4	65	150	3,180	2,080	8,370	1,530	2,660	855	343	66	24	11
5	71	145	4,600	2,610	7,410	1,430	2,460	818	322	98	23	10
6	91	144	5,040	3,060	6,540	1,330	2,250	774	308	111	22	10
7	89	145	5,600	3,360	5,760	1,230	2,030	732	284	109	23	13
8	86	150	6,090	3,530	4,960	1,160	1,840	695	261	83	23	48
9	59	151	6,340	3,570	4,200	1,110	1,680	705	254	75	23	26
10	50	138	6,720	3,540	3,480	1,130	1,550	700	250	69	22	12
11	83	201	6,730	3,520	2,850	1,210	1,460	695	252	64	23	23
12	87	336	6,780	3,460	2,330	1,240	1,350	689	253	61	23	61
13	93	392	7,020	3,520	2,110	1,220	1,320	654	259	57	23	46
14	99	685	7,200	3,560	2,180	1,210	1,410	613	265	52	23	12
15	81	972	8,140	3,630	2,530	1,920	1,470	580	237	47	23	49
16	66	1,440	9,560	3,640	2,780	3,130	1,440	550	211	44	23	61
17	68	1,620	9,910	3,590	2,900	3,660	1,500	405	195	40	22	35
18	91	1,380	9,160	3,450	2,920	3,800	1,610	384	185	36	20	48
19	99	1,080	8,150	3,420	2,900	3,830	1,660	458	173	28	21	58
20	231	925	7,210	4,270	2,890	3,850	1,610	451	159	24	19	55
21	277	851	6,320	4,380	2,810	3,750	1,500	430	153	25	19	54
22	216	769	5,460	4,540	2,620	3,660	1,390	413	154	26	18	51
23	292	665	4,600	4,630	2,360	3,590	1,300	405	166	26	18	49
24	460	576	3,830	4,710	2,130	3,550	1,210	394	221	26	17	49
25	413	513	3,330	4,790	1,940	3,570	1,160	386	244	25	16	49
26	318	473	3,160	4,820	1,760	3,630	1,180	379	205	26	15	47
27	233	470	3,030	5,190	1,610	3,680	1,150	382	178	26	15	45
28	183	473	2,750	6,280	1,500	3,620	1,100	381	162	26	16	45
29	191	455	2,430	6,830		3,510	1,060	393	153	26	17	44
30	196	455	2,180	7,650	- - - - -	3,400	1,010	415	145	26	17	44
31	186	- - - - -	1,990	9,210	- - - - -	3,440	- - - - -	427	- - - - -	26	16	- - - - -
Total	4,675	16,251	160,541	126,310	114,000	77,820	50,600	17,960	7,207	1,588	644	1,091
Mean	151	542	5,179	4,075	4,071	2,510	1,687	579	240	51.2	20.8	36.4
Max	460	1,620	9,910	9,210	10,500	3,850	3,270	974	426	112	29	61
Min	50	138	591	1,790	1,500	1,110	1,010	379	145	24	15	10
Cfsm	0.214	0.768	7.34	5.77	5.77	3.56	2.39	0.820	0.340	0.073	0.029	0.052
In.	0.25	0.86	8.46	6.65	6.01	4.10	2.67	0.95	0.38	0.08	0.03	0.06
Ac-ft	9,270	32,230	318,400	250,500	226,100	154,400	100,400	35,620	14,290	3,150	1,280	2,160

Cal yr 1966: Total	649,456	Mean	1,779	Max	10,600	Min	11	Cfsm	2.52	In. 34.21	Ac-ft	1,288,000
Wtr yr 1967: Total	578,687	Mean	1,585	Max	10,500	Min	10	Cfsm	2.25	In. 30.48	Ac-ft	1,148,000

14-2080. Clackamas River at Big Bottom, Oreg.

Location.--Lat 45°01'00", long 121°55'10", in NW¼SE¼ sec.26, T.6 S., R.7 E., on right bank at lower end of Big Bottom, 0.5 mile downstream from Pot Creek, 28 miles southeast of Estacada, and at mile 65.1.

Drainage area.--136 sq mi.

Records available.--April 1920 to September 1967. Monthly discharge only April 1920 published in WSP 1318.

Gage.--Digital water-stage recorder. Altitude of gage is 2,040 ft (from topographic map). Prior to Dec. 27, 1962, graphic water-stage recorder at site 0.2 mile upstream at different datum; Dec. 27, 1962, to Sept. 17, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--47 years, 475 cfs (343,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs Dec. 13 (gage height, 3.71 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement at gage height 10.55 ft; minimum, 216 cfs Sept. 26-29.

1920-67: Maximum discharge, 11,200 cfs Dec. 22, 1964 (gage height, 10.55 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow; minimum, 184 cfs Sept. 12, 1942.

Remarks.--Records excellent except those for periods of shifting control February to June, which are good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	234	245	439	433	947	427	404	342	519	300	240	225
2	236	245	421	404	850	415	393	342	519	300	240	225
3	233	240	393	513	777	393	393	359	500	295	240	225
4	230	240	439	557	720	381	393	381	506	290	235	225
5	230	250	457	519	685	375	393	392	506	285	235	225
6	230	278	433	481	637	370	381	415	494	279	235	225
7	230	256	421	445	597	364	387	445	487	279	235	225
8	230	249	393	433	570	364	393	513	469	279	235	221
9	230	248	375	415	544	381	393	603	445	274	235	221
10	230	257	531	410	531	370	387	584	427	274	235	235
11	230	358	637	457	513	353	387	525	410	269	235	264
12	249	601	1,070	451	500	348	393	487	410	269	230	245
13	247	430	1,860	597	525	342	410	475	398	264	230	230
14	239	887	1,420	637	494	337	398	494	393	264	230	225
15	235	1,060	1,020	685	487	342	387	531	393	259	230	225
16	235	798	850	699	469	348	381	624	393	259	230	225
17	235	610	741	624	506	364	370	741	387	259	230	225
18	233	506	678	570	564	381	375	748	381	254	230	225
19	232	487	644	630	506	370	364	741	375	254	230	225
20	327	551	637	762	481	387	359	791	393	254	230	225
21	305	487	590	664	463	410	353	850	381	254	230	221
22	386	433	551	584	445	439	353	879	393	249	230	221
23	354	398	519	538	433	610	353	835	364	249	230	221
24	315	375	494	513	427	557	359	741	348	249	230	221
25	289	393	481	487	410	513	364	658	332	249	225	221
26	279	427	451	557	398	487	364	610	321	245	230	221
27	281	381	427	1,060	393	463	364	584	321	245	230	221
28	264	364	415	1,730	398	451	353	590	310	245	225	216
29	256	353	415	1,690	------	439	348	624	310	245	225	240
30	254	393	404	1,440	------	427	342	610	305	245	225	269
31	249	------	393	1,120	------	415	------	551	------	240	225	------
TOTAL	8,007	12,800	18,999	21,105	15,270	12,623	11,294	18,065	12,190	8,175	7,175	6,838
MEAN	258	427	613	681	545	407	376	583	406	264	231	228
MAX	386	1,060	1,860	1,730	947	610	410	879	519	300	240	269
MIN	230	240	375	404	393	337	342	342	305	240	225	216
CFSM	1.90	3.14	4.51	5.01	4.01	2.99	2.77	4.28	2.99	1.94	1.70	1.68
IN.	2.19	3.50	5.20	5.77	4.18	3.45	3.09	4.94	3.33	2.24	1.96	1.87
AC-FT	15,880	25,390	37,680	41,860	30,290	25,040	22,400	35,830	24,180	16,210	14,230	13,560

CAL YR 1966: TOTAL 169,607 MEAN 465 MAX 1,860 MIN 230 CFSM 3.42 IN 46.38 AC-FT 336,400
WAT YR 1967: TOTAL 152,541 MEAN 418 MAX 1,860 MIN 216 CFSM 3.07 IN 41.71 AC-FT 302,600

Peak discharge (base, 1,500 cfs).--Dec. 13 (1200 hrs) 1,950 cfs (3.71 ft); Jan. 28 (1600 hrs) 1,870 cfs (3.63 ft).

14-2083. Collawash River near Breitenbush, Oreg.

Location.--Lat 44°59'20", long 122°03'55", in NE¼SW¼ sec.3, T.7 S., R.6 E., on left bank 0.2 mile downstream from Hot Springs Fork, 0.1 mile upstream from Fan Creek, 14.7 miles north of Breitenbush, and at mile 3.8.

Drainage area.--142 sq mi.

Records available.--March 1966 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,610 ft (from river-profile map).

Extremes.--Maximum discharge during year, 10,500 cfs Dec. 13 (gage height, 10.17 ft); minimum, 44 cfs Sept. 28, 29.

1966-67: Maximum discharge, 10,500 cfs Dec. 13, 1966; minimum, 44 cfs Sept. 28, 29, 1967.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	52	139	725	596	1,510	596	457	352	708	194	76	52
2	59	129	700	553	1,240	583	434	370	776	183	73	52
3	59	121	642	978	1,060	542	427	405	750	175	72	50
4	55	112	807	1,190	971	511	428	460	770	164	72	50
5	53	126	837	1,060	911	483	421	526	756	157	72	50
6	52	229	826	872	831	464	400	654	710	151	71	50
7	52	179	756	727	762	448	404	815	652	146	69	48
8	53	165	622	631	703	439	424	1,060	574	140	67	48
9	54	167	554	572	659	470	421	1,220	518	138	67	48
10	52	303	1,510	540	632	456	419	1,060	471	133	69	55
11	51	1,110	1,970	727	618	423	414	867	442	130	68	107
12	65	2,810	4,700	780	598	405	412	750	431	125	65	93
13	86	1,400	8,530	1,960	634	397	473	690	429	121	63	68
14	73	4,230	4,510	2,090	592	381	457	708	443	115	61	60
15	66	4,340	2,400	1,980	578	408	427	861	465	110	60	55
16	64	2,520	1,770	1,820	564	440	418	1,200	477	110	58	54
17	61	1,570	1,400	1,330	842	460	398	1,490	471	107	59	52
18	58	1,080	1,210	1,050	1,190	510	388	1,400	447	104	58	52
19	56	973	1,130	1,210	969	490	370	1,310	424	101	56	52
20	222	1,100	1,120	1,840	817	550	357	1,460	430	99	56	50
21	207	896	987	1,310	722	690	348	1,590	394	96	56	50
22	544	743	854	990	652	817	354	1,540	392	94	56	48
23	581	611	755	811	604	1,110	376	1,330	346	94	56	48
24	443	539	695	700	572	1,050	396	1,060	314	88	58	48
25	321	589	651	628	545	901	415	874	293	88	58	46
26	268	690	576	1,030	512	786	430	776	278	86	56	46
27	243	583	519	4,650	492	692	432	750	259	85	52	46
28	202	522	475	7,790	524	620	411	782	240	83	52	44
29	175	472	494	5,070	------	572	391	894	225	81	55	53
30	167	569	490	3,400	------	531	376	894	211	79	56	95
31	151	------	464	2,070	------	489	------	770	------	76	52	------
TOTAL	4,645	29,017	43,679	50,955	21,304	17,714	12,278	28,918	14,096	3,653	1,919	1,670
MEAN	150	967	1,409	1,644	761	571	409	933	470	118	61.9	55.7
MAX	581	4,340	8,530	7,790	1,510	1,110	473	1,590	776	194	76	107
MIN	51	112	464	540	492	381	348	352	211	76	52	44
CFSM	1.06	6.81	9.92	11.6	5.36	4.02	2.88	6.57	3.31	.83	.44	.39
IN.	1.22	7.60	11.4	13.3	5.58	4.64	3.22	7.57	3.69	.96	.50	.44
AC-FT	9,210	57,550	86,640	101,100	42,260	35,140	24,350	57,360	27,960	7,250	3,810	3,310

CAL YR 1966: TOTAL 77,341.00 MEAN 212 MAX 8,530 MIN 0 CFSM 1.49 IN 20.26 AC-FT 153,400
WAT YR 1967: TOTAL 229,848 MEAN 630 MAX 8,530 MIN 44 CFSM 4.43 IN 60.20 AC-FT 455,900

Peak discharge (base, 3,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-12	0500	7.66	4,050				
11-14	1145	8.20	5,100				
12-13	0730	10.17	10,500				
1-28	0545	9.51	8,530				

14-2086. Timothy Lake near Government Camp, Oreg.

Location.--Lat 45°06'50", long 121°48'35", in NE¼ sec.27, T.5 S., R.8 E., in intake structure 350 ft upstream from dam on Oak Grove Fork, 0.4 mile upstream from Anvil Creek, 14 miles south of Government Camp, and at mile 15.8.

Drainage area.--53.8 sq mi.

Records available.--May 1956 to September 1967. Prior to October 1957, published as Timothy Meadows Reservoir.

Gage.--Bristol pressure gage readings obtained once daily. Datum of gage is at mean sea level (levels by Portland General Electric Co.).

Extremes.--Maximum contents observed during year, 68,450 acre-ft July 11 (elevation, 3,191.96 ft); minimum observed, 51,370 acre-ft Dec. 1 (elevation, 3,178.95 ft).

1956-67: Maximum contents observed, 68,650 acre-ft Sept. 8, 9, 1966 (elevation, 3,192.1 ft); minimum observed, 16,010 acre-ft Feb. 24, 1957 (elevation, 3,144.5 ft).

Remarks.--Reservoir is formed by earth-fill dam with concrete spillway built by Portland General Electric Co. Usable storage began May 28, 1956. Capacity, 65,710 acre-ft at elevation 3,190 ft (normal maximum operating level). Usable capacity increased in 1966 water year to 64,450 acre-ft between elevations 3,125.0 (invert of outlet pipe) and 3,192.0 ft (top of radial gates). Storage of 4,060 acre-ft below elevation 3,125.0 ft not normally available for release. Water is used for power generation. Figures given herein represent total contents.

Cooperation.--Elevations and capacity table furnished by Portland General Electric Co.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	3,190.6	66,540	-
Oct. 31	3,184.2	57,990	-8,550
Nov. 30	3,179.0	51,430	-6,560
Dec. 31	3,180.1	52,800	+1,370
Calendar year 1966	-	-	+1,980
Jan. 31	3,183.6	57,220	+4,420
Feb. 28	3,184.6	58,510	+1,290
Mar. 31	3,184.3	58,120	-390
Apr. 30	3,185.0	59,030	+910
May 31	3,189.6	65,160	+6,130
June 30	3,191.8	68,230	+3,070
July 31	3,191.9	68,370	+140
Aug. 31	3,191.9	68,370	0
Sept. 30	3,191.9	68,370	0
Water year 1966-67	-	-	+1,830

† Gage read at 2400 hrs.

14-2087. Oak Grove Fork near Government Camp, Oreg.

Location.--Lat 45°06'50", long 121°48'50", in NE¼ sec.27, T.5 S., R.8 E., on right bank 0.1 mile upstream from Anvil Creek, 0.3 mile downstream from Timothy Lake, 14 miles south of Government Camp, and at mile 15.5.

Drainage area.--54.4 sq mi.

Records available.--July 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 3,041.83 ft above mean sea level (Portland General Electric Co. bench mark). Prior to Sept. 18, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--11 years, 114 cfs (82,530 acre-ft per year), adjusted for storage.

Extremes.--Maximum discharge during year, 602 cfs Nov. 8 (gage height, 3.24 ft); minimum, 31 cfs Sept. 18-20; minimum daily, 31 cfs Sept. 19.

1956-67: Maximum discharge, 2,110 cfs Dec. 24, 1964 (gage height, 3.93 ft), from rating curve extended above 290 cfs on basis of slope-area measurement of peak flow; minimum, 3.8 cfs July 19, 1956; minimum daily, 24 cfs for many days in July and September 1956.

Remarks.--Records good. Regulation by Timothy Lake (see sta. no. 2086). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	308	56	92	49	160	49	44	37	36	38	38
2	48	302	56	87	49	171	49	42	37	36	38	38
3	103	312	54	77	49	188	49	42	37	35	39	38
4	49	312	55	63	49	197	49	41	36	36	39	37
5	48	300	55	113	49	200	49	39	36	36	39	37
6	48	283	56	143	88	204	49	39	36	42	39	37
7	48	296	55	143	94	197	49	41	37	46	39	37
8	48	282	204	170	113	217	49	41	37	46	37	37
9	47	294	191	193	120	194	49	41	37	46	36	37
10	46	245	52	176	133	182	49	39	37	44	35	37
11	46	149	53	150	138	228	49	39	37	44	36	39
12	164	46	57	157	141	228	49	39	37	53	35	39
13	273	77	50	49	121	228	183	39	37	56	35	39
14	290	64	42	43	157	228	207	39	36	53	35	39
15	303	41	42	43	160	227	220	39	37	53	36	36
16	303	41	41	43	153	121	216	38	37	53	36	36
17	303	41	41	42	84	54	223	37	36	53	37	35
18	307	176	41	47	57	54	225	37	36	48	36	34
19	314	140	41	52	97	54	224	37	36	46	36	31
20	201	183	41	41	123	54	235	37	36	46	37	33
21	207	212	41	52	141	54	131	37	36	43	37	36
22	227	227	40	83	144	54	46	37	37	41	37	37
23	104	236	162	120	161	47	46	38	36	39	37	41
24	256	233	164	122	154	49	46	38	36	38	37	38
25	298	181	41	144	164	49	46	38	36	39	38	37
26	294	179	127	104	171	49	46	38	36	39	36	37
27	305	220	228	43	194	49	46	37	36	39	36	35
28	302	228	178	46	166	49	46	37	36	39	36	35
29	303	252	178	45	------	49	46	37	36	39	36	36
30	303	166	178	45	------	49	46	37	36	38	37	37
31	300	------	178	51	------	49	------	37	------	38	38	------
TOTAL	5,936	6,026	2,798	2,779	3,319	3,933	2,866	1,201	1,093	1,340	1,143	1,103
MEAN	191	201	90.3	89.6	119	127	95.5	38.7	36.4	43.2	36.9	36.8
MAX	314	312	228	193	194	228	235	44	37	56	39	41
MIN	46	41	40	41	49	47	46	37	36	35	35	31
AC-FT	11,770	11,950	5,550	5,510	6,580	7,800	5,680	2,380	2,170	2,660	2,270	2,190

Adjusted for change in contents in Timothy Lake

Mean	52.4	90.6	113	161	142	121	111	138	88.1	45.6	36.9	36.8
Cfsm	0.963	1.67	2.08	2.96	2.61	2.22	2.04	2.54	1.62	.838	.678	.676
In.	1.11	1.86	2.39	3.42	2.71	2.55	2.27	2.93	1.81	.965	.782	.755
Ac-ft	3,220	5,390	6,920	9,930	7,870	7,410	6,590	8,510	5,240	2,800	2,270	2,190

Observed							Adjusted					
Cal yr 1966: Total	37,688	Mean	103	Max	325	Min	37	Ac-ft	74,750	Mean	106	Cfsm	1.95	In.	26.44	Ac-ft	76,730
Wtr yr 1967: Total	33,537	Mean	91.9	Max	314	Min	31	Ac-ft	66,520	Mean	94.4	Cfsm	1.74	In.	23.56	Ac-ft	68,350

14-2090. Oak Grove Fork above powerplant intake, Oreg.

Location.--Lat 45°04'20", long 121°57'00", on line between secs.3 and 4, T.6 S., R.7 E., on right bank 0.2 mile upstream from Spring Creek, 0.7 mile upstream from Kink Creek, 1.0 mile upstream from Portland General Electric Co. diversion dam, 24 miles southeast of Estacada, and at mile 6.1.

Drainage area.--126 sq mi, includes that of Spring Creek.

Records available.--May 1909 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as both Oak Grove Fork of Clackamas River at proposed intake, near Cazadero and Oak Grove Fork of Clackamas River at intake, near Cazadero May 1909 to September 1910, as Oak Grove Fork of Clackamas River at intake, near Cazadero October 1910 to September 1921, and as Oak Grove Fork at Portland Electric Power Co. intake October 1921 to September 1929.

Gage.--Digital water-stage recorder. Datum of gage is 2,052.31 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. May 21, 1909, to Nov. 17, 1911, staff gage and Mar. 26, 1912, to Sept. 30, 1923, graphic water-stage recorder, at various sites 0.7 mile downstream, below Kink Creek, at different datum. Oct. 1, 1923 to Apr. 16, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--58 years, 500 cfs (362,000 acre-ft per year).

Extremes.--Maximum discharge during year, 712 cfs Nov. 8 (gage height, 2.76 ft); minimum, 244 cfs Sept. 18-20, 24-29.

1909-67: Maximum discharge, 5,000 cfs Jan. 7, 1923 (gage height, 5.45 ft, site and datum then in use), from rating curve extended above 2,300 cfs on basis of peak discharge for other stations in Clackamas River basin; minimum, 236 cfs Oct. 15, 16, 18, 1931.

Remarks.--Records good. Flow regulated by Timothy Lake since 1956 (see sta. no. 2086). No diversion above station. Records include flow of Spring Creek.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	259	532	345	435	550	490	340	322	420	283	263	252
2	259	532	331	395	500	496	336	322	415	283	263	252
3	313	538	327	468	480	502	336	331	405	279	263	252
4	259	538	354	446	480	502	340	340	400	279	263	252
5	259	550	349	474	460	502	336	349	395	279	263	252
6	259	520	345	496	550	502	331	367	390	279	263	252
7	259	538	340	490	496	496	340	390	385	283	263	252
8	263	520	441	490	502	508	345	425	376	283	263	252
9	259	556	485	508	496	502	340	463	367	283	259	252
10	259	532	345	490	502	485	345	446	358	283	259	259
11	259	514	367	490	502	508	349	425	354	279	259	279
12	354	410	485	502	496	508	354	415	349	283	255	259
13	490	385	628	586	485	508	474	405	340	291	259	255
14	502	604	610	592	502	502	520	415	336	287	255	255
15	520	556	520	610	502	508	514	430	331	287	259	252
16	514	502	474	592	496	430	514	463	331	287	259	252
17	514	425	435	526	520	349	514	502	327	287	259	252
18	520	490	420	490	496	349	520	514	322	279	259	252
19	526	490	410	538	485	345	514	520	327	275	259	245
20	490	520	410	550	485	358	520	544	345	275	259	248
21	415	526	395	502	479	363	430	574	331	271	259	252
22	538	526	376	500	479	372	322	580	345	267	259	252
23	400	520	468	550	502	405	327	562	322	267	259	252
24	490	508	496	550	496	395	331	520	313	267	255	248
25	532	514	372	550	496	381	336	485	304	267	259	248
26	526	485	410	500	496	372	336	468	300	263	255	248
27	532	514	526	450	508	363	331	452	295	263	255	245
28	532	514	474	500	496	358	327	452	291	263	255	245
29	532	526	485	550	------	354	322	452	291	263	255	259
30	532	468	479	600	------	349	322	457	287	263	252	263
31	526	------	485	600	------	345	------	430	------	263	252	------
TOTAL	12,892	15,353	13,387	16,020	13,937	13,407	11,566	13,820	10,352	8,561	8,019	7,588
MEAN	416	512	432	517	498	432	386	446	345	276	259	253
MAX	538	604	628	610	550	508	520	580	420	291	263	279
MIN	259	385	327	395	460	345	322	322	287	263	252	245
AC-FT	25,570	30,450	26,550	31,780	27,640	26,590	22,940	27,410	20,530	16,980	15,910	15,050

CAL YR 1966: TOTAL 158,547 MEAN 434 MAX 1,110 MIN 259 AC-FT 314,500
WAT YR 1967: TOTAL 144,902 MEAN 397 MAX 628 MIN 245 AC-FT 287,400

14-2095. Clackamas River above Three Lynx Creek, Oreg.

Location.--Lat 45°07'30", long 122°04'20", in NE¼ sec.21, T.5 S., R.6 E., on right bank 500 ft upstream from Three Lynx Creek, 1,300 ft downstream from powerplant, 17 miles southeast of Estacada, and at mile 47.8.

Drainage area.--479 sq mi.

Records available.--April 1909 to December 1913, October 1921 to September 1967. Prior to October 1911 (monthly discharge only), published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,091.69 ft above mean sea level, datum of 1929, supplementary adjustment of 1947 (levels by Portland General Electric Co.). Apr. 23, 1909, to Jan. 4, 1914, staff gage at about same site and datum. Graphic water-stage recorder, Nov. 1, 1921, to Dec. 27, 1924, at datum 0.91 ft higher, and Dec. 28, 1924, to June 9, 1964, at present datum.

Average discharge.--50 years, 1,949 cfs (1,411,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,700 cfs Jan. 28 (gage height, 8.72 ft); minimum, 505 cfs many days in October and November; minimum daily, 615 cfs Aug. 22, 23.

1909-13, 1921-67: Maximum discharge, 68,200 cfs Dec. 22, 1964 (gage height, 21.7 ft, from floodmark), from rating curve extended above 34,100 cfs by logarithmic plotting; minimum, 324 cfs Oct. 17, 1958; minimum daily, 427 cfs Oct. 5, 1958.

Remarks.--Records excellent. Minor regulation since 1956 by Timothy Lake (see sta. no. 2086). Considerable diurnal fluctuation during periods of low flow.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	667	1,080	1,920	1,970	3,970	1,900	1,520	1,240	1,700	982	675	625
2	674	1,060	1,830	1,840	3,430	1,880	1,400	1,220	2,050	874	695	625
3	715	1,010	1,710	2,480	3,000	1,790	1,420	1,300	1,980	922	808	640
4	660	1,070	2,110	2,860	2,770	1,740	1,400	1,380	1,990	856	685	625
5	685	1,080	2,340	2,770	2,620	1,690	1,490	1,450	2,020	850	685	625
6	689	1,180	2,310	2,510	2,460	1,650	1,290	1,640	1,970	832	685	640
7	682	1,110	2,190	2,260	2,290	1,620	1,410	1,940	1,890	826	680	645
8	693	1,100	1,950	2,070	2,160	1,600	1,420	2,390	1,780	832	655	630
9	676	1,100	1,900	1,940	2,080	1,680	1,390	2,610	1,630	802	706	640
10	681	1,320	3,000	1,910	2,040	1,660	1,390	2,380	1,560	802	675	645
11	688	2,600	3,760	2,220	1,980	1,600	1,370	2,070	1,490	790	675	778
12	890	4,600	6,560	2,310	1,950	1,540	1,430	1,900	1,460	784	670	685
13	982	3,000	11,200	3,770	2,030	1,530	1,560	1,800	1,440	796	665	665
14	993	6,500	7,400	4,140	1,960	1,500	1,620	1,860	1,420	766	665	655
15	962	7,000	4,800	3,890	1,940	1,560	1,620	2,070	1,450	778	670	645
16	976	4,800	3,810	3,880	1,900	1,590	1,540	2,550	1,460	772	665	645
17	984	3,400	3,240	3,200	2,310	1,700	1,540	3,170	1,440	760	655	650
18	968	2,680	2,890	2,810	2,970	1,880	1,560	3,140	1,410	766	645	645
19	977	2,470	2,720	3,010	2,530	1,750	1,500	3,080	1,380	766	625	645
20	1,270	2,730	2,670	4,340	2,310	1,840	1,470	3,320	1,450	796	635	640
21	1,120	2,450	2,490	3,480	2,130	1,940	1,420	3,370	1,380	766	640	640
22	1,760	2,130	2,240	2,880	2,030	2,030	1,250	3,640	1,430	655	615	640
23	1,640	1,880	2,190	2,530	1,920	2,630	1,210	3,300	1,280	695	615	640
24	1,460	1,790	2,080	2,380	1,860	2,550	1,350	2,760	1,180	724	620	635
25	1,310	1,880	2,020	2,180	1,820	2,220	1,350	2,390	1,150	754	640	630
26	1,250	2,100	1,820	2,600	1,750	2,030	1,380	2,200	1,100	718	645	630
27	1,240	1,840	1,810	6,520	1,720	1,880	1,380	2,100	1,060	748	650	625
28	1,130	1,760	1,730	10,900	1,720	1,860	1,320	2,160	1,010	685	645	630
29	1,160	1,680	1,810	8,750	------	1,660	1,290	2,350	976	730	650	650
30	1,080	1,770	1,830	6,860	------	1,560	1,210	2,380	904	706	665	748
31	1,080	------	1,770	4,970	------	1,580	------	2,100	------	766	695	------
TOTAL	30,742	70,170	92,100	110,230	63,650	55,640	42,500	71,260	44,440	24,299	20,599	19,461
MEAN	992	2,339	2,971	3,556	2,273	1,795	1,417	2,299	1,481	784	664	649
MAX	1,760	7,000	11,200	10,900	3,970	2,630	1,620	3,640	2,050	982	808	778
MIN	660	1,010	1,710	1,840	1,720	1,500	1,210	1,220	904	655	615	625
CFSM	2.07	4.88	6.20	7.42	4.75	3.75	2.96	4.80	3.09	1.64	1.39	1.35
IN.	2.39	5.45	7.15	8.56	4.94	4.32	3.30	5.53	3.45	1.89	1.60	1.51
AC-FT	60,980	139,200	182,700	218,600	126,200	110,400	84,300	141,300	88,150	48,200	40,860	38,600

CAL YR 1966: TOTAL 730,203 MEAN 2,001 MAX 11,200 MIN 645 CFSM 4.18 IN 56.69 AC-FT 1,448,000
WAT YR 1967: TOTAL 645,091 MEAN 1,767 MAX 11,200 MIN 615 CFSM 3.69 IN 50.09 AC-FT 1,280,000

Peak discharge (base, 8,100 cfs).--Dec. 13 (0830 hrs) 12,500 cfs (8.66 ft); Jan. 28 (0900 hrs) 12,700 cfs (8.72 ft).

14-2096. Roaring River near Estacada, Oreg.

Location.--Lat 45°09'35", long 122°06'50", in SW¼SE¼ sec.6, T.5 S., R.6 E., on right bank 400 ft upstream from the mouth and 13.8 miles southeast of Estacada.

Drainage area.--42.4 sq mi at cable site 0.2 mile upstream.

Records available.--January 1966 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,040 ft (from topographic map).

Extremes.--Maximum discharge during year, 947 cfs Jan. 13 (gage height, 4.71 ft); minimum, 39 cfs Oct. 1, 2, 5-7.

1966-67: Maximum discharge, 947 cfs Jan. 13, 1967; minimum, 39 cfs Sept. 30, Oct. 1, 2, 5-7, 1966.

Remarks.--Records fair prior to May 1, good thereafter. No regulation or diversion above station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	39	67	150	235	380	205	142	138	214	93	57	47
2	55	64	138	208	328	199	138	135	211	93	57	48
3	48	61	128	332	278	185	142	143	205	91	56	50
4	43	57	189	340	264	175	148	155	205	88	55	50
5	39	74	195	288	254	168	142	173	205	84	54	50
6	39	119	186	244	232	162	138	196	196	82	55	50
7	42	99	171	217	217	160	145	217	188	80	56	50
8	53	93	148	193	211	158	162	244	180	80	55	48
9	46	135	138	185	202	168	150	296	173	80	52	48
10	42	308	224	180	202	162	142	257	163	79	51	51
11	42	360	266	250	202	150	142	223	158	75	50	86
12	50	475	450	264	199	142	145	214	153	75	50	62
13	57	364	616	765	211	138	148	205	145	74	50	50
14	53	664	556	718	199	132	142	202	143	72	48	47
15	47	646	430	658	193	145	132	217	140	71	48	46
16	46	562	344	568	193	170	130	264	140	68	47	45
17	47	430	271	465	392	178	122	340	138	68	47	45
18	46	316	244	384	485	193	132	336	135	68	46	46
19	43	248	229	392	364	178	122	324	130	66	46	45
20	87	224	238	455	288	190	120	352	135	68	47	45
21	78	195	211	372	247	190	118	376	155	65	48	45
22	207	168	196	299	229	202	118	372	185	63	48	45
23	214	148	182	250	223	247	130	336	153	63	47	45
24	145	132	172	223	217	235	132	278	135	62	46	43
25	111	224	175	205	205	223	142	229	125	62	46	44
26	103	248	162	274	190	205	142	217	118	60	45	44
27	97	204	150	556	180	188	140	214	113	59	46	42
28	83	183	142	744	190	175	132	220	108	59	46	42
29	76	159	162	688	------	170	132	238	104	57	45	52
30	85	145	168	562	------	160	138	271	100	59	45	60
31	74	------	193	455	------	150	------	226	------	59	45	------
TOTAL	2,237	7,172	7,224	11,969	6,975	5,503	4,108	7,608	4,653	2,223	1,534	1,471
MEAN	72.2	239	233	386	249	178	137	245	155	71.7	49.5	49.0
MAX	214	664	616	765	485	247	162	376	214	93	57	86
MIN	39	57	128	180	180	132	118	135	100	57	45	42
CFSM	1.70	5.64	5.50	9.11	5.88	4.19	3.23	5.79	3.66	1.69	1.17	1.16
IN.	1.96	6.29	6.34	10.5	6.12	4.83	3.60	6.67	4.08	1.95	1.35	1.29
AC-FT	4,440	14,230	14,330	23,740	13,830	10,920	8,150	15,090	9,230	4,410	3,040	2,920

CAL YR 1966: TOTAL 16,633.00 MEAN 45.6 MAX 664 MIN 0 CFSM 1.07 IN 14.59 AC-FT 32,990
WAT YR 1967: TOTAL 62,677 MEAN 172 MAX 765 MIN 39 CFSM 4.05 IN 54.98 AC-FT 124,300

Peak discharge (base, 800 cfs).--Jan. 13 (1800 hrs) 947 cfs (4.71 ft); Jan. 28 (0900 hrs) 821 cfs (4.53 ft).

14-2100. Clackamas River at Estacada, Oreg.

Location.--Lat 45°18'00", long 122°21'10", in NE¼ sec.19, T.3 S., R.4 E., on left bank 0.2 mile downstream from River Mill Dam, 1.5 miles northwest of Estacada, and at mile 23.1.

Drainage area.--671 sq mi.

Records available.--April 1908 to September 1967. Monthly discharge only April 1908, published in WSP 1318. Published as "near Cazadero" January 1909 to September 1957.

Gage.--Digital water-stage recorder. Datum of gage is 296.93 ft above mean sea level (levels by Portland General Electric Co.). Apr. 6 to Dec. 31, 1908, staff gage at site 1.3 miles upstream; Jan. 1 to Nov. 19, 1909, staff gage and Nov. 20, 1909, to Oct. 9, 1922, graphic water-stage recorder at site 5.8 miles upstream; Oct. 10 to Nov. 14, 1922, staff gage and Nov. 15, 1922, to Sept. 30, 1957, graphic water-stage recorder at site 6.3 miles upstream, all at different datum; Oct. 1, 1957, to June 8, 1964, graphic water-stage recorder and June 9, 1964, to Feb. 16, 1965, digital water-stage recorder at same site at datum 2.00 ft higher.

Average discharge.--59 years, 2,699 cfs (1,954,000 acre-ft per year).

Extremes.--1965-66: Maximum discharge during year, 16,900 cfs (revised) Mar. 9 (gage height, 6.67 ft); minimum, 315 cfs July 30, Aug. 30, 31, Sept. 5, 6.
1966-67: Maximum discharge during year, 23,700 cfs Jan. 28 (gage height, 7.61 ft); minimum, 230 cfs Sept. 26.
1908-67: Maximum discharge, 86,900 cfs Dec. 22, 1964 (gage height, 18.36 ft); minimum, 50 cfs Mar. 10, 1961, from rating curve extended below 260 cfs by logarithmic plotting; minimum daily, 285 cfs Oct. 4, 5, 1958, caused by filling of North Fork dam forebay.

Remarks.--Records good. Large dirunal fluctuations and some regulation caused by powerplants at River Mill Dam and, since 1958, North Fork Dam. Minor regulation since 1956 by Timothy Lake (see sta. no. 2086). Two small diversions above station for Oregon City and Estacada municipal water supply.

Cooperation.--Eight discharge measurements furnished by Portland General Electric Co.

Revisions.--Revised figures of discharge, in cubic feet per second, for water year 1966, superseding figures published in the 1966 Annual Report, are given herein.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	600	947	1,330	2,080	1,840	1,910	5,940	2,770	2,910	1,220	1,010	800
2	1,030	927	2,040	3,180	1,870	1,760	6,900	3,260	1,840	1,310	963	767
3	724	1,510	2,290	3,610	1,720	1,720	6,170	4,000	2,160	1,660	936	758
4	793	2,110	2,060	4,320	2,040	1,530	5,170	5,670	1,640	1,520	740	761
5	1,630	1,040	1,210	4,000	1,590	1,760	5,490	6,960	1,720	1,470	764	630
6	1,170	1,210	1,950	11,000	2,180	1,620	5,460	8,040	2,220	1,480	698	652
7	440	1,140	1,930	9,010	1,770	1,720	6,270	6,960	2,110	1,300	820	648
8	360	1,110	2,290	7,760	1,920	2,710	6,820	5,880	2,320	1,230	780	755
9	340	829	2,440	6,070	1,550	10,000	6,720	5,940	2,130	1,110	1,000	726
10	550	876	2,180	4,650	2,280	10,800	6,760	5,940	2,180	1,060	525	664
11	650	1,920	1,560	4,190	2,080	6,720	7,960	4,190	2,570	1,260	909	726
12	773	2,810	1,350	3,740	1,680	5,290	8,000	4,070	2,770	1,140	772	979
13	877	3,260	1,590	4,030	1,730	5,200	6,300	3,980	2,110	1,100	788	858
14	1,860	2,690	1,110	6,580	1,820	7,280	5,090	3,680	2,010	1,160	748	856
15	1,420	2,890	2,030	7,520	1,710	7,960	4,870	3,030	2,150	1,180	772	885
16	868	1,260	1,790	5,850	1,490	6,480	5,700	2,930	2,200	804	772	860
17	1,040	981	1,370	4,630	1,520	5,640	5,490	2,770	1,930	740	772	844
18	1,320	868	1,050	4,000	2,230	4,470	4,840	2,690	1,740	1,010	733	587
19	1,260	677	1,110	3,350	1,520	4,520	4,370	2,730	1,720	990	780	870
20	837	1,570	1,300	2,250	1,340	4,220	3,660	3,220	1,620	1,000	780	832
21	861	2,530	927	2,250	1,850	3,290	3,720	3,240	1,480	1,020	828	813
22	678	2,590	1,030	2,460	1,840	2,730	3,390	3,480	1,550	788	820	720
23	735	2,610	1,220	1,870	2,020	2,650	2,710	3,240	1,520	748	756	793
24	642	2,710	1,480	2,100	2,110	1,870	3,460	2,810	1,790	892	748	777
25	569	2,220	719	1,980	2,170	2,060	3,520	3,070	1,240	1,180	764	782
26	511	1,030	844	2,010	2,350	3,010	3,630	3,370	1,030	909	733	766
27	497	2,290	3,220	1,910	1,190	3,830	3,660	3,330	1,330	936	748	760
28	783	1,470	4,220	2,080	1,980	3,930	3,140	2,420	1,660	981	780	951
29	660	1,220	4,390	1,960		4,390	3,060	2,810	1,170	1,020	820	1,010
30	977	1,140	4,320	1,740	- - - - -	5,030	2,890	2,650	1,370	556	734	865
31	721	- - - - -	3,290	2,100	- - - - -	5,520	- - - - -	3,290	- - - - -	520	752	- - - - -
Total	26,176	50,435	59,640	124,280	51,390	131,620	151,160	122,420	56,190	33,294	24,545	23,695
Mean	844	1,681	1,924	4,009	1,835	4,246	5,039	3,949	1,873	1,074	792	790
Max	1,860	3,260	4,390	11,000	2,350	10,800	8,000	8,040	2,910	1,660	1,010	1,010
Min	340	677	719	1,740	1,190	1,530	2,710	2,420	1,030	520	525	587
Cfsm	1.26	2.51	2.87	5.97	2.73	6.33	7.51	5.89	2.79	1.60	1.18	1.18
In.	1.45	2.80	3.31	6.89	2.85	7.30	8.38	6.79	3.11	1.85	1.36	1.31
Ac-ft	51,920	100,000	118,300	246,500	101,900	261,100	299,800	242,800	111,500	66,040	48,680	47,000

Cal yr 1965: Total	879,039	Mean	2,408	Max	32,500	Min	300	Cfsm	3.59	In.	48.72	Ac-ft	1,744M
Wtr yr 1966: Total	854,845	Mean	2,342	Max	11,000	Min	340	Cfsm	3.49	In.	47.38	Ac-ft	1,696M

Peak discharge (base, 15,000 cfs).--Mar. 9 (2030 hrs) 16,900 cfs (6.67 ft).

14-2100. Clackamas River at Estacada, Oreg.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	691	1,020	2,590	2,790	6,230	2,530	1,760	2,400	2,320	1,200	900	714
2	634	1,080	2,420	2,950	5,310	2,570	1,900	1,240	2,270	1,200	826	638
3	812	1,210	2,310	2,910	4,600	2,550	1,840	1,850	2,650	1,150	917	629
4	748	1,200	2,990	4,520	4,340	2,320	2,010	1,820	2,730	1,140	799	677
5	698	1,070	3,240	4,450	3,520	2,030	1,980	2,080	1,990	1,250	807	667
6	726	1,900	3,410	4,550	3,680	2,100	1,900	2,200	2,320	1,030	764	699
7	616	1,500	3,440	3,570	3,290	2,220	1,810	2,630	2,220	1,110	846	610
8	610	1,120	2,530	2,870	3,030	2,160	1,930	3,010	2,400	1,020	879	673
9	705	1,270	3,080	2,610	2,770	2,460	1,700	4,030	2,250	1,020	928	724
10	772	2,440	3,460	2,610	2,650	2,230	1,880	3,330	1,880	1,000	835	752
11	852	2,970	5,880	3,100	2,870	1,980	1,850	2,790	1,960	1,050	893	829
12	876	6,620	9,500	3,930	2,460	1,950	2,180	2,320	2,010	1,080	753	994
13	1,080	4,870	14,800	6,300	3,010	2,160	2,290	2,380	1,730	968	571	828
14	1,190	9,100	11,400	8,430	2,710	1,900	2,490	2,100	1,820	1,020	823	766
15	909	11,200	7,440	7,000	2,830	2,060	1,530	3,060	1,780	1,020	794	607
16	860	8,560	6,100	6,900	2,730	2,130	1,820	3,200	1,780	890	808	611
17	1,150	6,200	4,650	5,430	3,310	2,610	1,780	4,320	1,910	952	762	745
18	1,010	4,420	3,950	4,600	5,790	2,830	2,180	4,170	1,840	980	764	809
19	963	3,830	4,070	4,420	4,730	2,510	1,820	4,190	1,660	914	732	629
20	1,780	3,310	3,590	7,000	4,170	2,510	1,990	3,860	1,620	973	728	721
21	2,340	3,880	2,870	5,910	3,440	2,810	1,910	4,520	1,880	1,010	761	637
22	2,100	2,200	3,330	4,630	2,830	2,850	1,590	4,890	2,300	897	742	712
23	2,150	2,710	2,990	4,050	2,930	3,270	1,700	4,710	1,970	773	740	783
24	1,950	1,910	2,870	3,060	2,490	3,980	1,690	4,340	1,730	843	772	677
25	1,620	2,910	3,610	2,990	2,420	3,520	1,850	3,030	1,500	990	753	682
26	1,590	3,220	1,350	3,700	2,400	2,830	2,010	2,990	1,710	883	700	640
27	1,620	2,320	2,270	8,970	2,230	2,490	1,880	2,530	1,300	948	734	660
28	1,180	2,610	2,370	18,100	2,360	2,470	1,910	2,440	1,440	785	656	739
29	1,370	2,290	2,490	13,900	------	2,180	1,660	3,100	1,450	809	666	696
30	1,260	2,250	2,650	12,000	------	2,730	1,160	3,180	1,260	853	695	909
31	1,480	------	2,590	8,250	------	2,060	------	2,970	------	991	826	------
TOTAL	36,342	101,190	130,240	176,500	95,130	77,000	56,000	95,680	57,680	30,749	24,174	21,457
MEAN	1,172	3,373	4,201	5,694	3,398	2,484	1,867	3,086	1,923	992	780	715
MAX	2,340	11,200	14,800	18,100	6,230	3,980	2,490	4,890	2,730	1,250	928	994
MIN	610	1,020	1,350	2,610	2,230	1,900	1,160	1,240	1,260	773	571	607
AC-FT	72,080	200,700	258,300	350,100	188,700	152,700	111,100	189,800	114,400	60,990	47,950	42,560
CFSM	1.75	5.03	6.26	8.49	5.06	3.70	2.78	4.60	2.87	1.48	1.16	1.07
IN	2.01	5.61	7.22	9.78	5.27	4.27	3.10	5.30	3.20	1.70	1.34	1.19

Cal yr 1966:	Total	986,366	Mean	2,702	Max	14,800	Min	520	Cfsm	3.90	In.	54.67	Ac-ft	1,956,000
Wtr yr 1967:	Total	902,142	Mean	2,472	Max	18,100	Min	571	Cfsm	3.68	In.	50.00	Ac-ft	1,789,000

Peak discharge (base, 15,000 cfs).--Dec. 13 (1000 hrs) 17,000 cfs (6.68 ft); Jan. 28 (1000 hrs) 23,700 cfs (7.61 ft).

14-2110. Clackamas River near Clackamas, Oreg.

Location.--Lat 45°23'36", long 122°31'54", in NE¼SW¼ sec.14, T.2 S., R.2 E., on left bank 0.8 mile upstream from Johnson Creek, 2.1 miles southeast of Clackamas, and at mile 4.8.

Drainage area.--936 sq mi at Gladstone Bridge 3.6 miles downstream, where all discharge measurements are made.

Records available.--September 1911 to April 1912 (published as "at Park Place"), October 1962 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 50 ft (from topographic map). Sept. 15, 1911, to Apr. 22, 1912, staff gage at site 3.6 miles downstream at different datum. Oct. 1, 1962, to June 9, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--5 years, 3,383 cfs (2,449,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,900 cfs Jan. 28 (gage height, 10.98 ft); minimum, 340 cfs Sept. 16, 22.
1911-12, 1962-67: Maximum discharge, 120,000 cfs Dec. 22, 1964 (gage height, 27.0 ft, from floodmarks); minimum, 340 cfs Sept. 16, 22, 1967.

Remarks.--Records good except those for period of no gage-height record, which are fair. Diurnal fluctuations and some regulation by powerplants and several storage dams upstream, operated by Portland General Electric Co. Small diversions above station for Oregon City and Estacada municipal water supply. Records of water temperatures for the water year 1967 are published in Part 2 of this report. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	798	1,400	3,170	3,440	7,890	3,600	2,000	2,600	2,750	1,220	865	760
2	762	1,210	2,990	4,160	6,630	3,760	2,100	1,600	2,260	1,170	823	700
3	767	1,130	3,000	3,550	5,650	3,680	1,900	2,020	2,800	1,030	851	640
4	824	1,260	4,220	5,840	5,250	3,550	2,300	2,100	2,930	1,030	795	640
5	821	1,270	5,190	6,000	4,360	3,200	2,300	2,260	2,380	1,120	795	706
6	730	1,630	5,080	5,980	4,300	2,900	2,200	2,330	2,490	1,110	774	670
7	676	1,870	5,440	5,060	3,920	2,950	2,100	2,960	2,320	1,070	802	628
8	702	1,410	3,950	4,440	4,130	2,750	2,300	3,240	2,510	1,060	788	646
9	717	1,320	4,410	3,820	3,560	3,080	2,000	4,410	2,390	1,010	964	694
10	837	2,330	4,590	3,470	3,580	3,200	2,100	3,710	1,920	972	865	706
11	953	3,440	6,890	3,900	3,620	3,020	2,100	3,200	2,040	988	858	694
12	919	7,430	10,200	4,860	3,330	2,560	2,300	2,830	2,110	1,020	816	682
13	1,060	5,860	19,500	8,670	3,920	2,900	2,500	2,460	1,840	963	598	676
14	1,300	11,300	15,100	11,600	3,880	2,680	3,000	2,140	1,940	945	658	809
15	1,060	14,700	8,970	9,030	3,620	3,100	1,800	3,260	1,910	956	802	646
16	884	12,100	7,230	8,820	3,740	3,110	2,100	3,210	1,820	893	781	586
17	1,180	8,230	5,370	7,170	4,840	3,530	2,100	4,610	1,990	956	816	628
18	1,040	5,880	4,470	5,870	7,620	4,260	2,500	4,350	1,900	932	748	676
19	1,060	4,840	4,440	5,620	6,440	4,140	2,100	4,450	1,800	893	754	570
20	1,560	4,370	4,400	9,120	5,350	3,550	2,300	3,990	1,700	940	724	736
21	2,780	4,710	3,260	8,100	4,620	3,840	2,100	4,610	2,000	972	742	676
22	1,850	3,440	3,940	6,220	3,880	3,880	1,900	4,900	2,100	924	736	586
23	2,470	2,920	3,470	5,590	3,660	4,310	1,900	4,800	2,120	788	730	858
24	2,180	2,550	3,470	3,900	3,440	5,050	1,900	4,440	1,880	823	742	700
25	2,020	3,090	4,530	4,420	3,100	4,350	2,200	3,620	1,540	924	754	700
26	1,650	4,020	2,770	4,260	3,280	4,240	2,300	2,760	1,620	872	730	718
27	1,600	3,390	2,860	11,500	2,950	3,000	2,100	3,010	1,500	872	706	676
28	1,640	3,250	3,260	23,400	2,970	2,700	2,100	2,670	1,230	809	676	706
29	1,280	2,760	3,020	19,400	------	2,500	1,900	3,060	1,460	760	658	700
30	1,410	2,680	3,260	15,500	------	3,000	1,600	3,380	1,240	872	688	865
31	1,560	------	3,400	10,400	------	2,500	------	3,600	------	940	718	------
TOTAL	39,090	125,790	165,850	233,110	123,530	104,890	64,100	102,580	60,490	29,834	23,757	20,678
MEAN	1,261	4,193	5,350	7,520	4,412	3,384	2,137	3,309	2,016	962	766	689
MAX	2,780	14,700	19,500	23,400	7,890	5,050	3,000	4,900	2,930	1,220	964	865
MIN	676	1,130	2,770	3,440	2,950	2,500	1,600	1,600	1,230	760	598	570
CFSM	1.35	4.48	5.72	8.03	4.71	3.61	2.28	3.54	2.15	1.03	.82	.74
IN.	1.55	5.00	6.59	9.26	4.91	4.17	2.55	4.08	2.40	1.19	.94	.82
AC-FT	77,530	249,500	329,000	462,400	245,000	208,000	127,100	203,500	120,000	59,170	47,120	41,010

CAL YR 1966: TOTAL 1,215,078 MEAN 3,329 MAX 19,500 MIN 535 CFSM 3.56 IN 48.28 AC-FT 2,410,000
WAT YR 1967: TOTAL 1,093,699 MEAN 2,996 MAX 23,400 MIN 570 CFSM 3.20 IN 43.46 AC-FT 2,169,000

Peak discharge (base, 16,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	1200	8.93	17,200				
12-13	1300	10.01	22,000				
1-28	1300	10.98	26,900				

Note.--No gage-height record Mar. 27 to May 2.

14-2115. Johnson Creek at Sycamore, Oreg.

Location.--Lat 45°28'40", long 122°30'24", in lot 2, SW¼ sec.13, T.1 S., R.2 E., on right bank 0.3 mile southwest of Sycamore station, 2.5 miles east of city limits of Portland, and at mile 10.2.

Drainage area.--28.2 sq mi.

Records available.--July 1940 to September 1967.

Gage.--Digital water-stage recorder and V-notch weir. Datum of gage is 228.47 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 16, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--27 years, 53.5 cfs (38,730 acre-ft per year).

Extremes.--Maximum discharge during year, 728 cfs Jan. 28 (gage height, 8.54 ft); minimum, 0.23 cfs Sept. 24, 27, 28.

1940-67: Maximum discharge, 2,620 cfs Dec. 22, 1964 (gage height, 14.68 ft); minimum, 0.08 cfs Aug. 21, 1966.

Remarks.--Records good. Slight diurnal fluctuation at low flow caused by recreational ponds upstream. Small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	1.7	64	59	112	67	55	32	4.2	1.5	2.8	.46
2	.60	1.3	70	54	89	182	45	29	3.9	1.3	1.1	.46
3	.90	1.2	61	77	72	132	36	25	3.3	1.6	.71	.46
4	.70	1.1	352	180	61	86	34	22	3.1	1.3	.55	.46
5	.60	2.8	327	170	52	65	31	19	2.8	1.2	.55	.41
6	.70	14	196	171	44	51	26	16	2.5	1.1	.55	.50
7	.80	5.0	278	133	38	41	22	13	2.1	.83	.77	.60
8	1.4	2.9	169	93	33	36	19	12	2.3	.90	.65	.50
9	1.0	7.9	125	71	30	33	19	19	2.3	.90	.60	.46
10	.80	8.2	242	59	27	48	18	17	2.3	.83	.50	.55
11	.80	42	167	79	30	38	16	15	2.2	.77	.55	1.5
12	1.3	51	251	78	29	34	14	13	2.2	.83	.55	1.2
13	2.4	62	285	178	55	39	54	11	2.1	.77	.77	.55
14	1.4	154	186	150	48	43	54	9.2	2.1	.65	.71	.46
15	1.1	149	117	121	85	266	39	8.5	2.0	.65	.71	.41
16	.90	158	81	94	68	148	39	7.7	1.9	.65	1.1	.55
17	.70	87	63	75	115	148	38	6.8	1.4	.65	.97	.55
18	.80	67	51	63	132	208	37	6.2	1.5	.60	.90	.55
19	.80	69	43	169	96	135	32	5.3	1.4	.65	.77	.50
20	5.1	67	50	291	72	110	27	4.5	1.6	.77	.77	.60
21	4.7	47	42	178	57	80	24	4.2	3.1	.71	.65	.55
22	11	36	36	124	48	93	22	3.7	11	.71	.65	.50
23	3.5	29	33	91	41	104	23	3.7	6.2	.71	.60	.50
24	2.0	24	32	74	37	96	19	3.5	3.5	.55	.60	.37
25	1.6	28	106	103	31	83	53	3.3	2.8	.55	.65	.37
26	3.0	31	77	168	26	75	96	3.1	2.3	.60	.65	.33
27	3.8	24	63	388	23	64	84	3.1	2.2	.65	.55	.30
28	2.1	21	56	492	35	62	62	3.3	2.1	.60	.60	.30
29	1.5	19	58	393	------	66	47	4.2	1.9	.90	.60	.37
30	5.2	34	51	232	------	79	38	11	1.7	1.4	.71	1.2
31	3.2	------	50	135	------	70	------	6.2	------	2.0	.50	------
TOTAL	65.40	1,240.1	3,782	4,749	1,585	2,767	1,125	340.5	84.0	27.93	23.34	16.52
MEAN	2.11	41.3	122	153	56.6	89.3	37.5	11.0	2.80	.90	.75	.55
MAX	11	158	352	492	132	266	96	32	11	2.0	2.8	1.5
MIN	.60	1.1	32	54	23	34	14	3.1	1.4	.55	.50	.30
CFSM	.07	1.47	4.33	5.43	2.01	3.17	1.33	.39	.10	.03	.03	.02
IN.	.09	1.64	4.99	6.26	2.09	3.65	1.48	.45	.11	.04	.03	.02
AC-FT	130	2,460	7,500	9,420	3,140	5,490	2,230	675	167	55	46	33

CAL YR 1966: TOTAL 16,924.50 MEAN 46.4 MAX 867 MIN .20 CFSM 1.64 IN 22.32 AC-FT 33,570
WAT YR 1967: TOTAL 15,805.79 MEAN 43.3 MAX 492 MIN .30 CFSM 1.54 IN 20.84 AC-FT 31,350

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1230	7.62	568	1-28	0300	8.54	728
1-20	0100	7.44	541				

14-2487. Bear Creek near Svensen, Oreg.

Location.--Lat 46°06'48", long 123°37'55", in NE¼NE¼ sec.11, T.7 N., R.8 W., on right bank 0.5 mile upstream from the Astoria Reservoir Dam and 3.8 miles southeast of Svensen.

Drainage area.--3.33 sq mi.

Records available.--August 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 700 ft (from topographic map).

Extremes.--Maximum discharge during year, 121 cfs Dec. 14, Jan. 19 (gage height, 2.82 ft); minimum, 1.2 cfs Sept. 8, 9.

1965-67: Maximum discharge, 185 cfs Jan. 5, 1966 (gage height, 3.10 ft); minimum, 1.2 cfs Sept. 8, 9, 1967.

Remarks.--Records good. Flow regulated by Wickiup Lake. No diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.2	6.0	34	29	39	25	23	12	7.3	5.6	4.0	1.6
2	2.8	5.6	45	27	35	28	22	12	7.1	5.2	4.2	1.5
3	1.9	5.4	38	31	31	24	20	12	7.1	5.2	4.2	1.4
4	1.9	5.2	84	50	31	22	20	12	6.8	5.2	3.8	1.3
5	2.0	5.6	50	39	28	20	19	12	6.8	5.2	3.6	1.3
6	2.0	6.0	49	44	27	19	18	11	6.5	5.0	3.6	1.4
7	2.4	5.8	42	37	24	18	17	11	6.5	5.0	3.6	1.3
8	2.9	5.6	33	32	23	20	16	10	8.1	5.0	3.9	1.3
9	2.3	6.8	30	29	21	23	17	10	6.8	5.0	4.2	1.3
10	2.0	7.3	37	32	21	22	16	10	6.3	5.0	4.2	1.7
11	1.8	7.1	33	33	21	20	15	10	6.3	5.0	3.6	1.8
12	2.9	9.6	61	51	21	19	16	9.6	6.8	5.4	3.6	1.4
13	3.6	18	88	68	45	18	23	9.6	6.0	5.0	3.8	1.3
14	6.0	23	58	56	37	19	21	9.2	5.8	4.8	3.8	1.3
15	6.3	18	44	45	43	31	19	9.2	5.8	4.6	3.6	1.5
16	6.3	15	39	44	50	32	27	8.8	5.8	4.8	3.5	1.8
17	6.3	12	35	38	62	29	22	8.4	6.0	5.0	3.5	1.8
18	6.0	11	32	35	53	27	20	8.4	5.6	4.8	6.3	1.8
19	7.1	10	32	78	41	24	17	8.4	5.4	4.6	11	1.8
20	10	9.6	31	68	35	26	16	8.1	5.4	4.6	11	1.8
21	9.2	10	28	56	31	23	16	8.1	6.0	4.6	11	1.8
22	20	8.8	27	49	28	39	16	7.9	14	4.4	11	1.8
23	12	8.4	27	44	27	42	15	7.9	7.6	4.4	5.0	1.8
24	8.4	8.1	32	38	24	38	14	7.9	6.5	4.2	2.0	1.7
25	7.1	13	34	36	24	34	15	7.6	6.3	4.6	2.0	1.8
26	7.6	11	30	38	22	32	14	7.3	6.0	4.6	1.9	1.8
27	7.1	10	27	54	20	28	13	7.3	6.3	4.4	1.8	1.8
28	6.3	9.6	25	54	27	27	13	7.3	5.8	4.2	1.7	1.8
29	7.3	11	27	58	------	27	14	8.4	6.3	4.2	1.7	2.0
30	7.1	27	24	51	------	27	13	9.2	5.8	4.0	1.7	2.2
31	6.5	------	24	40	------	26	------	7.9	------	4.0	1.6	------
TOTAL	177.3	309.5	1,200	1,384	891	809	527	288.5	198.8	147.4	134.5	48.9
MEAN	5.72	10.3	38.7	44.6	31.8	26.1	17.6	9.31	6.63	4.75	4.34	1.63
MAX	20	27	88	78	62	42	27	12	14	5.6	11	2.2
MIN	1.8	5.2	24	27	20	18	13	7.3	5.4	4.0	1.6	1.3
CFSM	1.72	3.10	11.6	13.4	9.58	7.84	5.28	2.79	1.99	1.43	1.30	.49
IN.	1.98	3.46	13.4	15.5	9.93	9.04	5.89	3.22	2.22	1.65	1.50	.55
AC-FT	352	614	2,380	2,750	1,770	1,600	1,050	572	394	292	267	97

CAL YR 1966: TOTAL 5,880.5 MEAN 16.1 MAX 105 MIN 1.8 CFSM 4.84 IN 65.67 AC-FT 11,660
WAT YR 1967: TOTAL 6,115.9 MEAN 16.8 MAX 88 MIN 1.3 CFSM 5.03 IN 68.30 AC-FT 12,130

Peak discharge (base, 150 cfs).--No peak above base.

14-3010. Nehalem River near Foss, Oreg.

Location.--Lat 45°42'15, long 123°45'15", in NW¼ sec.35, T.3 N., R.9 W., on right bank 0.2 mile upstream from Cook Creek and 2.2 miles northeast of Foss.

Drainage area.--667 sq mi.

Records available.--October 1939 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 32.60 ft above mean sea level, datum of 1929 (State Highway Department bench mark). Prior to Nov. 11, 1939, staff gage, and Nov. 11, 1939, to June 14, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--28 years, 2,703 cfs (1,957,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,700 cfs Dec. 13 (gage height, 18.83 ft); minimum, 34 cfs Aug. 29-31.

1939-67: Maximum discharge, 43,200 cfs Jan. 25, 1964 (gage height, 21.10 ft); maximum gage height, 21.53 ft Dec. 23, 1964; minimum discharge, 34 cfs Aug. 29-31, 1967.

Remarks.--Records excellent. No regulation. Several small diversions for irrigation and domestic use above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	113	378	7,180	3,020	8,780	2,100	3,500	1,210	460	196	96	38
2	108	354	12,700	3,190	7,130	2,330	3,140	1,160	420	190	93	50
3	102	326	13,300	4,530	5,680	2,360	2,830	1,110	395	178	88	48
4	95	303	17,800	6,860	4,680	2,190	2,590	1,070	382	165	85	45
5	91	296	15,100	9,340	3,840	2,010	2,380	1,040	362	163	80	43
6	87	310	16,400	9,260	3,210	1,860	2,160	1,000	342	157	80	43
7	92	314	13,400	8,660	2,780	1,700	1,960	973	330	151	83	43
8	104	300	10,700	7,440	2,430	1,590	1,790	945	318	151	83	43
9	109	300	8,030	5,920	2,160	1,810	1,710	917	318	148	83	50
10	105	330	8,660	4,960	1,960	1,990	1,570	889	314	148	78	65
11	99	420	9,480	5,310	1,810	2,120	1,440	875	314	145	78	121
12	114	1,570	16,100	5,970	1,820	2,100	1,370	833	314	142	75	124
13	136	2,180	34,600	9,700	4,100	2,070	1,920	798	310	142	75	104
14	140	5,300	28,600	9,150	4,710	2,080	2,110	752	300	139	70	93
15	140	5,430	15,600	7,690	5,660	3,460	2,070	728	289	136	65	85
16	131	4,050	9,840	7,040	6,880	7,290	2,150	704	279	130	62	85
17	129	2,850	6,750	6,260	8,160	7,400	2,260	686	265	127	57	78
18	118	2,160	5,660	5,340	8,230	6,840	2,220	668	251	124	55	72
19	125	1,870	4,080	9,240	7,040	5,730	2,160	650	237	127	50	67
20	370	1,750	3,670	15,200	5,750	5,310	2,160	626	223	127	48	62
21	583	1,830	3,160	13,700	4,640	4,870	2,010	602	223	133	48	57
22	2,690	1,680	2,740	10,300	3,790	6,070	1,890	560	265	130	48	57
23	1,860	1,440	2,490	8,440	3,160	9,480	1,760	540	346	127	45	55
24	1,130	1,250	2,720	6,930	2,700	9,460	1,630	525	346	124	43	52
25	698	1,370	3,330	6,150	2,400	8,360	1,570	520	322	118	43	50
26	550	1,600	3,370	7,600	2,120	6,840	1,530	510	272	115	40	50
27	495	1,450	3,070	13,700	1,880	5,600	1,450	490	247	110	40	48
28	435	1,340	2,760	18,900	1,840	4,670	1,370	485	233	107	38	45
29	415	1,300	2,670	19,100	------	4,130	1,290	495	219	104	36	48
30	450	3,910	2,550	16,700	------	3,940	1,250	505	209	102	36	88
31	415	------	2,360	12,100	------	3,740	------	485	------	99	36	------
TOTAL	12,229	47,961	295,270	277,710	119,340	131,500	59,240	23,351	9,105	4,259	1,937	1,909
MEAN	394	1,599	9,525	8,958	4,262	4,242	1,975	753	304	137	62.5	63.6
MAX	2,690	5,430	34,600	19,100	8,780	9,480	3,500	1,210	460	196	96	124
MIN	87	296	2,360	2,020	1,810	1,590	1,250	485	209	99	36	38
CFSM	.59	2.40	14.3	13.4	6.39	6.36	2.96	1.13	.46	.21	.09	.10
IN.	.68	2.67	16.5	15.5	6.65	7.33	3.30	1.30	.51	.24	.11	.11
AC-FT	24,260	95,130	585,700	550,800	236,700	260,800	117,500	46,320	18,060	8,450	3,840	3,790

CAL YR 1966: TOTAL 1,063,957 MEAN 2,915 MAX 34,600 MIN 61 CFSM 4.37 IN 59.32 AC-FT 2,110,000
WAT YR 1967: TOTAL 983,811 MEAN 2,695 MAX 34,600 MIN 36 CFSM 4.04 IN 54.85 AC-FT 1,951,000

Peak discharge (base, 19,000 cfs).--Dec. 13 (1000 hrs) 38,700 cfs (18.83 ft); Jan. 29 (1700 hrs) 20,300 cfs (13.98 ft).

14-3015. Wilson River near Tillamook, Oreg.

Location.--Lat 45°28'35", long 123°43'20", in SE¼SE¼ sec.13, T.1 S., R.9 W., on right bank 1.0 mile upstream from Little North Fork and 6.0 miles east of Tillamook.

Drainage area.--161 sq mi.

Records available.--October 1914 to September 1915, August to November 1916, July 1931 to September 1967. Prior to January 1915 monthly discharge only, published in WSP 1318.

Gage.--Water-stage recorder. Auxiliary staff gage at site 2.0 miles upstream used Oct. 1-20, 1966, June 1 to Sept. 30, 1967. Datum of gage is 42.13 ft above mean sea level, datum of 1929. Dec. 18, 1914, to Nov. 4, 1916, staff gage at site three-quarters of a mile downstream at different datum. July 30, 1931, to Sept. 30, 1938, staff gage at site 100 ft downstream at datum 0.93 ft higher.

Average discharge.--37 years (1914-15, 1931-67), 1,207 cfs (873,800 acre-ft per year).

Extremes.--Maximum discharge during year, 20,100 cfs Dec. 13 (gage height, 15.54 ft, at recorder site); minimum, 34 cfs Sept. 1-5, 18-22.

1914-16, 1931-67: Maximum discharge, 32,100 cfs Dec. 22, 1964 (gage height, 20.26 ft); minimum, 34 cfs Sept. 1-5, 18-22, 1967, but may have been less for short period following a landslide Jan. 31, 1965.

Flood in February 1916 reached a stage of 20.8 ft, from floodmarks, site and datum then in use.

Remarks.--Records good. No regulation. Small diversions for domestic use above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	62	405	3,110	1,710	2,510	1,070	1,190	593	257	110	55	34
2	61	370	5,990	1,610	2,100	1,210	1,140	572	236	110	53	34
3	59	340	5,560	2,770	1,720	1,110	1,080	551	229	104	53	34
4	56	310	7,830	3,420	1,520	1,010	1,060	537	218	99	53	34
5	59	298	6,410	3,370	1,320	940	985	530	215	99	53	34
6	61	315	5,470	2,810	1,180	868	922	530	208	96	57	37
7	68	290	4,370	2,330	1,050	832	850	530	201	99	53	37
8	66	266	3,080	2,080	940	778	832	530	194	93	53	37
9	68	286	2,460	1,860	859	949	841	518	194	88	49	37
10	64	365	4,880	1,740	778	967	760	482	194	86	49	46
11	66	678	5,130	2,350	744	913	704	452	190	83	46	59
12	84	2,700	8,880	2,830	728	850	720	410	187	86	46	53
13	84	1,760	16,700	5,110	1,870	868	1,260	395	180	86	44	53
14	80	3,150	7,780	3,680	1,700	904	1,260	380	170	80	43	49
15	73	3,980	4,170	2,840	1,700	1,460	1,120	360	156	76	43	46
16	69	2,590	2,770	2,440	1,800	2,330	1,170	355	145	73	43	40
17	68	1,840	2,110	2,060	2,740	2,560	1,150	345	142	69	43	37
18	66	1,440	1,700	1,710	3,260	2,400	1,080	335	139	67	40	34
19	68	1,240	1,530	3,870	2,320	1,920	1,020	315	133	65	40	34
20	368	1,140	1,540	5,250	1,800	2,060	967	298	133	69	40	34
21	565	1,080	1,350	3,760	1,490	2,060	913	286	133	71	40	34
22	3,470	1,000	1,200	2,810	1,280	3,060	859	270	156	69	40	34
23	1,640	868	1,130	2,240	1,130	4,640	805	262	166	65	40	37
24	1,080	769	1,280	1,810	1,020	3,640	778	262	130	69	38	37
25	744	886	1,480	1,720	940	2,700	778	250	130	65	37	37
26	656	931	1,360	2,790	850	2,260	778	242	124	63	37	40
27	579	841	1,210	7,960	778	1,860	720	230	121	61	37	40
28	464	787	1,090	9,080	850	1,620	680	238	118	65	37	40
29	452	832	1,160	6,640		1,490	648	270	112	63	37	44
30	440	2,280	1,120	5,270	- - - - -	1,420	616	290	110	59	37	57
31	416	- - - - -	1,080	3,350	- - - - -	1,300	- - - - -	270	- - - - -	57	36	- - - - -
Total	12,156	34,037	114,930	103,270	40,977	52,049	27,686	11,888	5,021	2,445	1,372	1,203
Mean	392	1,135	3,707	3,331	1,463	1,679	923	383	167	78.9	44.3	40.1
Max	3,470	3,980	16,700	9,080	3,260	4,640	1,260	593	257	110	57	59
Min	56	266	1,080	1,610	728	778	616	230	110	57	36	34
Cfsm	2.43	7.05	23.0	20.7	9.09	10.4	5.73	2.38	1.04	0.490	0.275	0.249
In.	2.81	7.86	26.55	23.85	9.47	12.02	6.40	2.75	1.16	0.56	0.32	0.28
Ac-ft	24,110	67,510	228,000	204,800	81,280	103,200	54,910	23,580	9,960	4,850	2,720	2,390

Cal yr 1966:	Total	456,564	Mean	1,251	Max	16,700	Min	53	Cfsm	7.77	In.	105.46	Ac-ft	905,600
Wtr yr 1967:	Total	407,034	Mean	1,115	Max	16,700	Min	34	Cfsm	6.93	In.	94.02	Ac-ft	807,300

Peak discharge (base, 12,000 cfs).--Dec. 13 (0900 hrs) 20,100 cfs (15.54 ft).

14-3025. Trask River near Tillamook, Oreg.

Location.--Lat 45°26'25", long 123°43'00", in NW¼NW¼ sec.31, T.1 S., R.8 W., on right bank 0.6 mile upstream from Gold Creek and 6.2 miles east of Tillamook.

Drainage area.--145 sq mi.

Records available.--July 1931 to September 1955, October 1961 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 58 ft above mean sea level (river-profile survey). Prior to Aug. 8, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--30 years, 962 cfs (696,500 acre-ft per year).

Extremes.--Maximum discharge during year, 12,600 cfs Dec. 13 (gage height, 8.97 ft); minimum, 42 cfs Sept. 28.

1931-55, 1961-67: Maximum discharge, 23,000 cfs Dec. 22, 1964 (gage height, 13.34 ft); minimum, 42 cfs Oct. 15-18, 1952, Sept. 28, 1967.

Maximum stage known, about 17 ft, probably Nov. 20, 1921 (discharge, 30,000 cfs, from rating curve extended above 12,000 cfs). Flood of Dec. 21, 1955, reached a stage of 13.09 ft, from floodmark (discharge, 20,200 cfs).

Remarks.--Records excellent except those for period of backwater from rock dam, which are good. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	246	1,660	1,240	2,520	893	1,080	520	225	108	73	52
2	68	233	3,940	1,210	2,100	1,210	1,010	494	209	105	71	57
3	67	213	3,820	1,960	1,740	1,070	947	481	201	102	71	59
4	63	197	6,180	2,250	1,530	956	920	462	198	99	68	57
5	61	200	5,090	2,250	1,310	884	866	443	186	96	68	55
6	62	230	4,180	2,170	1,150	839	798	437	183	96	68	55
7	71	203	3,480	1,920	1,020	798	742	425	183	96	68	52
8	86	188	2,550	1,660	920	798	718	413	183	96	71	50
9	77	233	2,040	1,470	848	1,100	726	401	179	99	68	48
10	70	295	2,980	1,370	782	1,080	662	390	175	96	64	66
11	67	460	3,360	1,580	750	983	614	382	175	94	64	96
12	107	1,630	4,960	2,030	710	911	598	356	172	94	64	78
13	125	1,140	11,000	4,030	1,630	938	1,050	340	168	94	64	64
14	92	1,860	6,080	3,180	1,490	1,000	992	325	161	91	61	57
15	84	2,660	3,420	2,500	1,710	1,780	902	315	155	91	60	52
16	78	1,900	2,330	2,200	1,980	2,560	1,000	305	152	88	55	50
17	75	1,410	1,760	1,860	2,920	2,700	974	295	148	88	55	50
18	72	1,100	1,410	1,570	3,180	2,370	938	286	138	88	55	55
19	79	979	1,240	2,400	2,300	1,930	884	276	135	88	50	55
20	358	837	1,140	3,260	1,770	1,940	839	263	132	91	50	55
21	425	781	988	2,680	1,440	1,800	790	254	138	91	50	52
22	1,710	682	880	2,210	1,230	2,160	750	245	175	86	50	52
23	982	619	840	1,880	1,080	3,130	702	241	172	83	50	50
24	607	555	916	1,590	956	2,990	662	233	145	81	50	48
25	422	793	1,100	1,570	884	2,450	678	229	132	81	50	46
26	397	869	1,010	2,200	798	2,050	670	221	129	83	50	46
27	373	782	907	5,690	734	1,720	622	217	126	81	50	46
28	315	699	840	7,210	814	1,520	583	225	123	78	48	44
29	309	668	907	5,780	------	1,390	562	263	120	78	48	50
30	321	1,200	864	4,680	------	1,300	541	281	114	78	48	66
31	277	------	848	3,170	------	1,180	------	250	------	73	50	------
TOTAL	7,963	23,862	82,720	80,770	40,296	48,430	23,820	10,268	4,832	2,793	1,812	1,663
MEAN	257	795	2,668	2,605	1,439	1,562	794	331	161	90.1	58.5	55.4
MAX	1,710	2,660	11,000	7,210	3,180	3,130	1,080	520	225	108	73	96
MIN	61	188	840	1,210	710	798	541	217	114	73	48	44
CFSM	1.77	5.49	18.4	18.0	9.93	10.8	5.48	2.28	1.11	.62	.40	.38
IN.	2.04	6.12	21.2	20.7	10.3	12.4	6.11	2.63	1.24	.72	.46	.43
AC-FT	15,790	47,330	164,100	160,200	79,930	96,060	47,250	20,370	9,580	5,540	3,590	3,300

CAL YR 1966: TOTAL 348,805 MEAN 956 MAX 11,000 MIN 55 CFSM 6.59 IN 89.46 AC-FT 691,800
WAT YR 1967: TOTAL 329,229 MEAN 902 MAX 11,000 MIN 44 CFSM 6.22 IN 84.44 AC-FT 653,000

Peak discharge (base, 9,300 cfs).--Dec. 13 (1000 hrs) 12,600 cfs (8.97 ft).

Note.--Backwater from rock dam, Aug. 31 to Sept. 30.

14-3029. Nestucca River near Fairdale, Oreg.

Location.--Lat 45°18'40", long 123°25'05", in SW¼NW¼ sec.15, T.3 S., R.6 W., on right bank 100 ft upstream from former Meadow Lake, 0.4 mile downstream from Walker Creek, and 5.3 miles southwest of Fairdale.

Drainage area.--6.18 sq mi.

Records available.--June 1960 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,809.20 ft above mean sea level (levels by Bureau of Public Roads). Prior to Aug. 13, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--7 years, 32.4 cfs (23,460 acre-ft per year).

Extremes.--Maximum discharge during year, 612 cfs Dec. 13 (gage height, 8.40 ft); minimum, 0.94 cfs Aug. 9, 20.

1960-67: Maximum discharge, 876 cfs Dec. 22, 1964 (gage height, 10.43 ft); minimum, 0.90 cfs Sept. 25, 1965.

Remarks.--Records fair. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.5	4.1	82	36	90	35	39	20	7.8	2.8	2.0	1.2
2	1.4	3.8	206	33	68	36	37	19	7.6	2.6	1.8	1.4
3	1.4	3.4	175	50	56	32	36	18	7.1	2.6	1.8	1.5
4	1.4	3.2	310	63	49	30	36	17	6.8	2.6	1.7	1.4
5	1.3	3.4	208	60	42	27	36	17	6.6	2.8	1.7	1.4
6	1.3	3.8	173	61	38	27	33	16	6.1	2.8	1.7	1.3
7	1.5	3.4	124	52	34	26	32	15	6.3	2.8	1.8	1.4
8	1.7	3.1	77	47	32	28	30	15	6.3	2.9	1.8	1.3
9	1.6	3.5	68	41	29	38	30	15	6.1	2.9	1.8	1.3
10	1.5	4.5	129	41	27	33	27	14	6.3	2.8	1.4	2.1
11	1.4	20	134	53	26	30	26	13	6.1	2.4	1.5	3.3
12	3.4	36	288	76	24	29	25	13	6.1	2.3	1.5	2.6
13	4.0	38	480	115	51	28	50	12	5.6	2.3	1.5	2.3
14	2.1	81	195	87	38	30	40	12	5.3	2.3	1.4	1.7
15	1.9	84	105	71	38	44	36	11	5.1	2.1	1.4	1.5
16	1.6	62	71	66	46	67	36	11	4.8	2.1	1.4	1.4
17	1.5	43	54	54	65	85	35	11	4.6	2.0	1.3	1.5
18	1.3	32	44	47	70	81	35	10	4.4	2.1	1.3	1.3
19	2.4	33	39	118	59	67	33	9.9	4.1	2.1	1.3	1.3
20	30	26	35	144	49	87	32	9.6	4.1	2.3	1.2	1.4
21	31	24	29	102	42	74	32	9.3	4.6	2.3	1.3	1.4
22	50	19	26	75	38	108	32	9.3	6.3	2.1	1.3	1.3
23	15	16	27	61	33	138	30	9.0	5.8	2.0	1.3	1.3
24	8.0	14	33	52	31	114	27	9.0	4.4	2.0	1.3	1.2
25	5.1	22	35	69	30	88	27	8.4	3.7	2.0	1.3	1.2
26	8.6	20	29	109	27	69	27	7.8	3.5	2.0	1.3	1.2
27	7.2	17	27	286	26	57	24	7.6	3.5	2.0	1.3	1.2
28	5.0	15	26	333	32	51	22	8.1	3.5	2.0	1.3	1.0
29	4.9	17	27	321	------	46	22	9.6	3.1	3.3	1.2	1.4
30	5.9	37	24	206	------	44	21	9.9	2.9	2.3	1.3	2.3
31	4.7	------	23	118	------	41	------	8.7	------	2.0	1.3	------
TOTAL	209.6	692.2	3,303	3,047	1,190	1,690	948	375.2	158.5	73.6	45.5	46.1
MEAN	6.76	23.1	107	98.3	42.5	54.5	31.6	12.1	5.28	2.37	1.47	1.54
MAX	50	84	480	333	90	138	50	20	7.8	3.3	2.0	3.3
MIN	1.3	3.1	23	33	24	26	21	7.6	2.9	2.0	1.2	1.0
AC-FT	416	1,370	6,550	6,040	2,360	3,350	1,880	744	314	146	90	91
CFSM	1.09	3.74	17.3	15.9	6.88	8.82	5.11	1.96	.854	.383	.238	.249
IN	1.26	4.17	19.88	18.34	7.16	10.17	5.70	2.26	.95	.44	.27	.28

CAL YR 1966: TOTAL 13,168.7 MEAN 36.1 MAX 480 MIN 1.3 AC-FT 26,120 CFSM 5.84 INCHES 79.25
WAT YR 1967: TOTAL 11,778.7 MEAN 32.3 MAX 480 MIN 1.0 AC-FT 23,360 CFSM 5.23 INCHES 70.88

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	0930	6.51	386				
12-13	0800	8.40	612				
1-28	0130	7.02	444				

14-3036. Nestucca River near Beaver, Oreg.

Location.--Lat 45°16'00", long 123°50'45", in SE¼NE¼ sec.36, T.3 S., R.10 W., on right bank 150 ft upstream from Saling Creek and 1.2 miles southwest of Beaver.

Drainage area.--180 sq mi.

Records available.--October 1964 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 43 ft (from river profile map). Prior to May 11, 1965, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 12,200 cfs Dec. 13 (gage height, 13.44 ft); minimum, 32 cfs Sept. 14.

1964-67: Maximum discharge, 24,000 cfs Jan. 28, 1965 (gage height, 19.53 ft, from floodmark); minimum, 32 cfs Sept. 14, 1967.

Remarks.--Records excellent. No regulation. Small diversions for irrigation above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	65	330	1,930	1,490	3,100	1,110	1,350	678	269	122	63	42
2	82	303	4,590	1,450	2,470	1,550	1,230	645	254	116	63	54
3	78	279	4,610	2,090	2,010	1,470	1,130	618	242	113	61	54
4	70	258	8,180	2,390	1,730	1,290	1,100	590	231	107	58	49
5	65	273	6,780	2,460	1,460	1,150	1,070	568	220	122	58	44
6	66	322	5,390	2,520	1,280	1,070	985	546	213	122	58	46
7	88	279	4,450	2,300	1,140	992	908	530	216	122	61	44
8	111	254	3,300	2,020	1,030	964	856	510	213	119	61	42
9	101	269	2,590	1,760	943	1,190	880	500	213	116	58	44
10	84	389	3,030	1,630	880	1,220	808	485	205	116	54	76
11	76	767	2,990	1,710	838	1,150	754	470	205	113	54	125
12	118	1,950	4,160	2,110	802	1,070	748	445	198	110	54	98
13	176	1,490	10,500	4,330	1,740	1,130	1,370	422	188	107	51	71
14	123	2,140	6,870	3,800	1,650	1,290	1,310	408	181	101	49	56
15	104	2,710	4,250	3,080	2,240	2,430	1,200	386	174	98	46	51
16	92	2,210	2,910	2,640	2,540	2,820	1,370	368	167	95	46	49
17	86	1,770	2,190	2,240	3,420	2,880	1,330	354	160	92	46	49
18	81	1,440	1,750	1,920	3,660	2,730	1,270	345	157	87	44	51
19	90	1,310	1,510	2,670	2,830	2,360	1,190	337	151	90	44	49
20	452	1,150	1,380	3,390	2,230	2,410	1,100	325	147	90	44	46
21	620	1,080	1,180	3,010	1,820	2,190	1,020	313	157	87	44	46
22	1,390	937	1,060	2,650	1,530	2,370	971	301	216	82	44	49
23	969	837	1,010	2,390	1,310	3,050	908	297	213	79	42	46
24	650	760	1,130	2,100	1,160	2,960	850	289	174	79	40	42
25	480	922	1,420	2,130	1,080	2,660	887	281	157	79	42	42
26	491	961	1,290	2,910	957	2,330	887	269	147	76	40	40
27	480	859	1,170	6,880	874	2,010	826	265	144	73	40	40
28	401	792	1,080	8,420	999	1,820	778	281	138	71	40	38
29	394	822	1,120	7,200	------	1,680	742	317	135	68	40	49
30	432	1,340	1,040	6,060	------	1,590	706	359	128	66	40	76
31	366	------	1,040	4,110	------	1,480	------	305	------	66	40	------
TOTAL	8,881	29,203	95,900	95,860	47,723	56,416	30,534	12,807	5,613	2,984	1,525	1,608
MEAN	286	973	3,094	3,092	1,704	1,820	1,018	413	187	96.3	49.2	53.6
MAX	1,390	2,710	10,500	8,420	3,660	3,050	1,370	678	269	122	63	125
MIN	65	254	1,010	1,450	802	964	706	265	128	66	40	38
AC-FT	17,620	57,920	190,200	190,100	94,660	111,900	60,560	25,400	11,130	5,920	3,020	3,190
CFSM	1.59	5.41	17.2	17.2	9.47	10.1	5.66	2.29	1.04	.535	.273	.298
IN	1.83	6.03	19.81	19.81	9.86	11.66	6.31	2.65	1.16	.62	.32	.33

CAL YR 1966: TOTAL 400,839 MEAN 1,098 MAX 10,500 MIN 53 AC-FT 795,100 CFSM 6.10 INCHES 82.82
WAT YR 1967: TOTAL 389,054 MEAN 1,066 MAX 10,500 MIN 38 AC-FT 771,700 CFSM 5.92 INCHES 80.38

Peak discharge (base, 8,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	1230	11.95	9,820				
12-13	1100	13.44	12,200				
1-28	0200	11.90	9,750				

14-3055. Siletz River at Siletz, Oreg.

Location.--Lat 44°42'55", long 123°53'10", in NW¼SW¼ sec.11, T.10 S., R.10 W., on right bank, 1.8 miles downstream from Baker Creek and 1.5 miles east of Siletz.

Drainage area.--202 sq mi.

Records available.--October 1905 to November 1911, January to May 1912, January to June 1924, November 1924 to September 1967. Prior to December 1905 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 102.32 ft above mean sea level, datum of 1929. Oct. 1, 1905, to May 4, 1912, staff gage, Jan. 1 to Nov. 5, 1924, chain gage, and Nov. 6, 1924, to Sept. 30, 1938, staff or wire-weight gage, all at sites within 2½ miles downstream at different datums. Oct. 1, 1938 to Apr. 26, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--48 years (1905-11, 1925-67), 1,576 cfs (1,141,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,100 cfs Jan. 28 (gage height, 18.13 ft); minimum, 48 cfs Sept. 28, 29.

1905-12, 1924-67: Maximum discharge, 32,200 cfs Jan. 28, 1965 (gage height, 27.32 ft); minimum, 48 cfs Sept. 25, 26, Oct. 4, 1965, Sept. 28, 29, 1967.

Maximum discharge known, 40,800 cfs Nov. 20, 1921 (gage height, 31.6 ft, at site 2½ miles downstream at different datum, from floodmark), from rating curve extended above 17,000 cfs.

Remarks.--Records excellent. Slight regulation from logponds. Small diversions above station for irrigation of not more than 600 acres.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	77	430	1,850	1,820	3,880	1,290	1,480	846	317	140	80	55
2	81	398	3,600	1,770	3,040	1,450	1,380	822	296	134	79	63
3	82	366	3,870	2,780	2,470	1,410	1,300	792	278	130	76	68
4	74	342	7,480	3,240	2,140	1,290	1,300	762	264	126	74	62
5	69	362	7,560	3,440	1,830	1,190	1,320	744	250	122	72	58
6	69	450	6,760	3,130	1,610	1,090	1,270	744	241	120	72	56
7	91	390	5,560	2,720	1,430	1,010	1,190	732	241	120	74	56
8	129	358	4,290	2,340	1,280	960	1,130	720	238	118	74	56
9	111	374	3,430	2,010	1,190	1,180	1,170	714	232	118	74	55
10	92	660	5,460	1,790	1,090	1,260	1,090	666	226	116	71	60
11	85	2,730	4,740	2,060	990	1,270	996	624	226	114	69	112
12	87	5,820	6,150	2,330	918	1,230	966	570	223	110	69	110
13	152	3,370	14,600	5,770	1,620	1,220	2,380	535	214	110	68	76
14	124	3,830	9,290	4,680	1,680	1,450	2,490	510	205	106	66	63
15	106	3,520	5,320	3,600	2,260	3,650	2,250	495	196	104	65	59
16	99	3,750	3,530	2,990	2,970	4,240	2,280	490	190	102	63	56
17	93	3,660	2,620	2,500	4,930	4,180	2,180	475	183	100	63	56
18	89	2,730	2,120	2,140	4,830	3,940	1,970	445	180	100	62	59
19	90	2,300	1,810	2,640	3,460	3,160	1,740	420	173	98	60	60
20	517	1,930	1,680	4,050	2,620	3,260	1,580	396	173	100	59	58
21	595	1,750	1,430	3,690	2,150	2,930	1,430	380	175	100	59	56
22	2,580	1,480	1,270	3,310	1,820	3,010	1,340	364	202	96	59	55
23	1,860	1,280	1,230	3,100	1,580	3,700	1,240	344	220	93	59	55
24	1,200	1,120	1,320	2,730	1,400	3,260	1,160	332	183	91	56	52
25	798	1,300	1,690	3,000	1,280	2,690	1,190	320	175	89	56	51
26	720	1,370	1,570	5,560	1,150	2,330	1,160	306	168	89	56	50
27	675	1,190	1,420	13,800	1,030	2,020	1,060	296	163	89	55	50
28	562	1,050	1,290	15,400	1,140	1,860	966	306	155	87	55	48
29	504	972	1,350	12,000	------	1,720	930	352	153	84	55	52
30	553	1,260	1,260	9,240	------	1,700	882	430	145	82	55	82
31	470	------	1,230	5,420	------	1,600	------	356	------	80	55	------
TOTAL	12,834	50,622	117,180	135,050	57,788	66,550	42,820	16,288	6,285	3,268	2,010	1,849
MEAN	414	1,687	3,780	4,356	2,064	2,147	1,427	525	210	105	64.8	61.6
MAX	2,580	5,820	14,600	15,400	4,930	4,240	2,490	846	317	140	80	112
MIN	69	342	1,230	1,770	918	960	882	296	145	80	55	48
AC-FT	25,460	100,400	232,400	267,900	114,600	132,000	84,930	32,310	12,470	6,480	3,990	3,670
CFSM	2.05	8.35	18.7	21.6	10.2	10.6	7.06	2.60	1.04	0.520	0.321	0.305
IN	2.36	9.32	21.57	24.86	10.64	12.25	7.88	3.00	1.16	0.60	0.37	0.34

CAL YR 1966: TOTAL 524,954 MEAN 1,438 MAX 16,600 MIN 58 AC-FT 1,041,000 CFSM 7.12 INCHES 96.65
WAT YR 1967: TOTAL 512,544 MEAN 1,404 MAX 15,400 MIN 48 AC-FT 1,017,000 CFSM 6.95 INCHES 94.36

Peak discharge (base, 14,000 cfs).--Dec. 13 (1130 hrs) 16,100 cfs (16.12 ft); Jan. 28 (0200 hrs) 19,100 cfs (18.13 ft).

14-3060.36 Mill Creek near Toledo, Oreg.

Location.--Lat 44°34'25", long 123°54'30", near center of sec.33, T.11 S., R.10 W., on left bank 175 ft downstream from diversion dam, 200 ft downstream from small tributary, and 3.6 miles southeast of Toledo.

Drainage area.--4.08 sq mi.

Records available.--October 1959 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 90 ft (from topographic map). Prior to May 11, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--8 years, 20.0 cfs (14,480 acre-ft per year), adjusted for diversion.

Extremes.--Maximum discharge during year, 298 cfs Jan. 27 (gage height, 3.99 ft); minimum, 0.11 cfs Sept. 13, 14; minimum daily, 0.13 cfs Sept. 27, 28.

1959-67: Maximum discharge, 609 cfs Jan. 27, 1965 (gage height, 5.83 ft), from rating curve extended above 65 cfs on basis of slope-area measurement of peak flow; no flow Sept. 27, Oct. 3, 4, 1961, Sept. 26, 1962.

Remarks.--Records good. Monthly figures only are adjusted for diversion for city of Toledo municipal supply. Occasional fluctuation caused by city of Toledo diversion dam 175 ft upstream. See list of measurements at miscellaneous sites for result of measurement on Mill Creek tributary.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.80	3.1	19	17	61	20	20	14	3.9	1.1	.60	.46
2	.90	2.8	53	17	45	22	19	13	3.6	1.1	.72	.76
3	.80	2.5	54	27	35	24	17	12	3.5	1.1	.56	.49
4	.70	2.3	147	47	29	20	17	12	3.2	1.2	.68	.56
5	.70	2.5	131	58	26	18	20	11	2.6	1.0	.78	.38
6	.70	3.5	113	42	22	17	21	11	2.6	.96	.60	.49
7	.90	2.7	106	35	20	16	20	9.9	2.8	1.0	.78	.38
8	.90	2.4	78	29	17	15	18	9.4	2.6	1.1	.53	.36
9	.80	3.0	59	25	15	16	19	9.4	2.5	1.1	.53	.53
10	.80	5.8	59	23	14	22	18	9.0	2.1	1.1	.76	.68
11	.70	70	52	22	13	20	17	8.5	2.2	.78	.64	.49
12	1.2	77	73	32	12	19	17	8.5	1.7	.91	.76	.68
13	1.1	35	178	103	22	18	60	8.0	1.7	.76	.60	.36
14	.90	56	118	74	28	45	56	8.0	1.4	.60	.56	.36
15	.90	39	73	53	75	188	50	7.5	1.3	.86	.46	.18
16	.80	36	48	42	95	99	54	7.5	1.5	.91	.41	.29
17	.80	31	35	35	130	75	53	7.1	1.5	.86	.41	.60
18	.80	24	28	29	100	67	42	6.6	1.4	1.0	.41	.41
19	1.0	22	23	43	65	52	35	6.0	1.5	.86	.53	.49
20	6.8	21	21	59	46	42	29	6.4	1.5	.86	.41	.38
21	5.1	23	19	53	36	34	26	6.2	1.5	1.0	.53	.36
22	14	20	18	51	30	32	23	5.7	2.4	.78	.46	.25
23	10	18	18	56	26	40	21	5.3	1.7	1.1	.53	.43
24	7.4	16	18	48	22	48	20	5.1	1.6	.72	.36	.29
25	4.9	16	20	46	18	40	20	4.5	1.5	.78	.36	.27
26	5.7	16	20	58	16	32	18	4.3	1.3	.91	.31	.20
27	5.8	15	18	228	14	27	17	4.6	1.4	.91	.41	.13
28	4.6	14	16	222	18	25	17	4.8	1.1	.68	.41	.13
29	4.2	14	16	190	------	24	16	5.1	1.2	.86	.38	.41
30	4.4	15	16	143	------	24	15	6.0	1.1	.78	.33	1.3
31	3.5	------	15	87	------	22	------	4.5	------	.68	.43	------
TOTAL	92.60	608.6	1,662	1,994	1,050	1,163	795	240.9	59.9	28.36	16.24	13.10
MEAN	2.99	20.3	53.6	64.3	37.5	37.5	26.5	7.77	2.00	.91	.52	.44
MAX	14	77	178	228	130	188	60	14	3.9	1.2	.78	1.3
MIN	.70	2.3	15	17	12	15	15	4.3	1.1	.60	.31	.13
AC-FT	184	1,210	3,300	3,960	2,080	2,310	1,580	478	119	56	32	26

Adjusted for diversion to city of Toledo

Mean	3.03	20.3	53.7	64.4	37.5	37.6	26.6	7.82	2.15	1.11	0.80	0.69
Cfsm	0.743	4.98	13.2	15.8	9.19	9.22	6.52	1.92	0.527	0.272	0.196	0.169
In.	0.85	5.56	15.17	18.19	9.56	10.62	7.26	2.21	0.59	0.31	0.23	0.19
Ac-ft	186	1,210	3,300	3,960	2,080	2,310	1,580	481	128	68	49	41

Observed	Adjusted
Cal yr 1966: Total 7,194.60 Mean 19.7 Max 292 Min .20 Ac-ft 14,270	Mean 19.9 Cfsm 4.88 In. 66.31 Ac-ft 14,430
Wtr yr 1967: Total 7,723.70 Mean 21.2 Max 228 Min .13 Ac-ft 15,320	Mean 21.2 Cfsm 5.20 In. 70.72 Ac-ft 15,390

Peak discharge (base, 250 cfs).--Jan. 27 (2300 hrs) 298 cfs (3.99 ft); Note.--No gage-height record Feb. 4 to Mar. 9.

14-3060.4 North Fork Beaver Creek near Seal Rock, Oreg.

Location.--Lat 44°31'40", long 124°00'10", in NE¼SE¼ sec.15, T.12 S., R.11 W., on downstream side of bridge pier, 1,100 feet upstream from Peterson Creek, and 4.4 miles northeast of Seal Rock.

Drainage area.--10.0 sq mi.

Records available.--July 1965 to September 1967 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 25 feet (from topographic map).

Extremes.--1965-66: Maximum discharge during year, 775 cfs Mar. 9 (gage height, 11.49 ft); minimum, 2.8 cfs Sept. 9, 10.
1966-67: Maximum discharge during year, 790 cfs Jan. 27 (gage height, 11.52 ft); minimum, 2.3 cfs Sept. 27.
1965-67: Maximum discharge, 790 cfs Jan. 27, 1967 (gage height, 11.52 ft); minimum, 2.3 cfs Sept. 27, 1967.

Remarks.--Records good. Records of water temperatures for the water year 1967 are published in Part 2 of this report. See list of measurements at miscellaneous sites for results of measurements on South Beaver Creek.

Revisions.--Revised figures of discharge, in cubic feet per second, for water year 1966, superseding figures published in the 1966 Annual Report, are given herein.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	4.4	36	179	51	53	42	18	8.0	6.5	3.6	3.2
2	3.5	6.6	36	228	49	53	39	17	8.0	9.9	3.7	3.2
3	3.5	24	40	275	47	53	37	17	7.9	9.1	3.7	3.2
4	6.0	17	97	363	46	53	34	16	7.6	7.6	3.8	3.1
5	8.4	13	72	258	49	58	32	17	7.5	6.9	3.7	3.1
6	5.0	11	60	263	55	72	30	18	7.3	6.5	3.6	3.0
7	4.2	12	64	213	63	115	28	16	7.2	6.4	3.5	3.0
8	4.4	14	60	194	65	144	27	15	7.1	5.9	3.5	2.9
9	4.0	13	52	159	70	530	27	14	6.9	5.8	3.5	2.9
10	3.8	24	45	132	84	258	33	14	9.7	5.6	3.4	3.0
11	3.6	46	40	129	87	172	56	13	9.4	5.2	3.4	3.9
12	3.8	95	37	128	103	129	73	13	7.8	5.2	3.4	4.5
13	4.0	75	34	135	88	121	51	13	7.1	5.1	3.4	3.7
14	9.0	55	31	165	78	119	45	13	6.9	5.0	3.5	3.4
15	15	44	29	226	67	132	40	13	6.6	4.8	3.4	3.4
16	10	34	27	171	60	126	36	16	6.4	4.7	3.3	4.2
17	7.5	28	26	132	55	114	33	13	6.4	4.7	3.2	4.6
18	6.5	26	24	110	52	112	31	12	6.2	4.7	3.2	10
19	5.5	40	23	94	53	124	28	11	6.1	5.1	3.1	5.3
20	4.8	60	22	82	60	137	28	10	5.8	4.7	3.1	4.4
21	4.7	85	24	74	55	163	27	11	5.7	4.6	3.1	3.8
22	4.3	110	22	66	52	126	26	11	5.7	4.5	3.1	3.6
23	4.2	85	30	65	49	105	24	10	11	4.5	3.1	3.6
24	4.0	65	122	86	45	100	23	9.6	7.2	4.7	3.1	3.9
25	4.0	50	81	80	44	79	22	9.2	6.4	4.5	3.1	7.3
26	3.8	55	82	69	43	68	22	9.1	5.9	4.3	3.1	12
27	6.6	60	166	61	46	61	20	8.9	6.8	4.2	4.8	6.6
28	8.6	55	545	85	50	55	20	8.6	9.1	4.0	4.0	5.4
29	5.7	46	390	55		51	19	8.5	6.9	3.9	3.6	5.0
30	5.1	38	250	55	- - - - -	47	18	8.3	6.1	3.8	3.5	4.5
31	4.7	- - - - -	187	55	- - - - -	45	- - - - -	8.2	- - - - -	3.7	3.3	- - - - -
Total	171.7	1,291.0	2,754	4,387	1,666	3,575	971	391.4	216.7	166.1	106.8	133.7
Mean	5.54	43.0	88.8	142	59.5	115	32.4	12.6	7.22	5.36	3.45	4.46
Max	15	110	545	363	103	530	73	18	11	9.9	4.8	12
Min	3.5	4.4	22	55	43	45	18	8.2	5.7	3.7	3.1	2.9
Cfsm	.554	4.30	8.88	14.2	5.95	11.5	3.24	1.26	.722	.536	.345	.446
In.	.64	4.80	10.24	16.32	6.20	13.30	3.61	1.46	.81	.62	.40	.50
Ac-ft	341	2,560	5,460	8,700	3,300	7,090	1,930	776	430	329	212	265

Cal yr 1965: Total - Mean - Max - Min - Cfsm - In. - Ac-ft -
Wtr yr 1966: Total 15,830.4 Mean 43.4 Max 545 Min 2.9 Cfsm 4.34 In. 58.87 Ac-ft 31,390

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-28	0200	11.09	575				
1- 4	0030	10.80	450				
3- 9	1130	11.49	775				

14-3060.4 North Fork Beaver Creek near Seal Rock, Oreg.

Discharge, in cubic feet per second. Water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	4.3	14	61	65	163	59	60	40	12	6.1	3.6	2.8
2	5.2	12	114	62	132	69	54	38	11	5.7	3.5	3.1
3	4.5	11	130	99	114	78	50	35	10	5.4	3.5	3.0
4	4.3	10	288	124	98	67	52	33	10	5.6	3.4	2.6
5	4.1	11	274	149	85	58	60	30	9.7	5.3	3.4	2.5
6	4.1	15	229	121	75	51	62	29	9.2	5.3	3.4	2.7
7	5.7	12	215	104	66	48	57	27	9.4	5.2	3.4	2.6
8	5.6	11	165	90	59	46	52	26	9.1	5.2	3.4	2.5
9	5.0	13	136	78	54	52	59	27	8.8	5.2	3.3	2.5
10	4.5	28	130	72	51	66	54	25	8.6	5.1	3.3	3.0
11	4.3	227	122	75	48	64	51	24	8.6	5.1	3.4	4.1
12	6.6	233	136	92	45	59	50	22	8.3	5.1	3.2	3.1
13	7.2	131	280	235	71	57	167	21	7.8	5.0	3.2	2.6
14	5.8	138	215	192	74	95	147	20	7.8	4.8	3.2	2.5
15	5.3	114	158	147	161	424	120	20	7.3	4.6	3.2	2.5
16	5.0	109	123	122	162	202	121	19	7.3	4.6	3.2	2.5
17	4.6	101	102	104	277	157	120	18	7.5	4.5	3.2	2.7
18	4.5	80	87	91	222	140	109	17	7.2	4.4	3.1	2.8
19	4.8	78	78	106	165	118	97	17	6.9	4.4	2.9	2.6
20	28	69	75	130	126	105	85	16	7.1	4.3	3.0	2.6
21	22	75	64	129	104	90	74	15	7.8	4.3	3.1	2.6
22	75	65	59	126	88	86	65	15	12	4.1	3.0	2.6
23	58	57	60	134	77	92	58	14	9.1	4.1	2.9	2.5
24	35	51	62	125	68	103	52	14	7.5	4.1	2.8	2.4
25	22	56	83	120	62	96	56	13	7.3	3.9	2.8	2.4
26	24	55	78	136	55	84	50	12	7.2	4.1	2.8	2.4
27	23	51	68	554	50	72	50	12	6.9	3.9	2.9	2.3
28	19	48	60	550	56	68	47	13	6.5	3.8	2.7	2.4
29	17	45	62	420	- - - - -	69	45	14	6.2	3.8	2.9	3.4
30	19	48	56	286	- - - - -	70	43	19	6.2	3.7	2.8	12
31	15	- - - - -	54	196	- - - - -	66	- - - - -	14	- - - - -	3.7	2.7	- - - - -
Total	452.4	1,968	3,824	5,034	2,808	2,911	2,167	659	250.3	144.4	97.2	90.3
Mean	14.6	65.6	123	162	100	93.9	72.2	21.3	8.34	4.66	3.14	3.01
Max	75	233	288	554	277	424	167	40	12	6.1	3.6	12
Min	4.1	10	54	62	45	46	43	12	6.2	3.7	2.7	2.3
Cfsm	1.46	6.56	12.3	16.2	10.0	9.39	7.22	2.13	0.834	0.466	0.314	0.301
In.	1.68	7.32	14.22	18.72	10.44	10.83	8.06	2.45	0.93	0.54	0.36	0.34
Ac-ft	897	3,900	7,580	9,980	5,570	5,770	4,300	1,310	496	286	193	179

Cal yr 1966:	Total	11,613.7	Mean	31.8	Max	530	Min	2.9	Cfsm	3.18	In.	43.19	Ac-ft	23,040
Wtr yr 1967:	Total	20,405.6	Mean	55.9	Max	554	Min	2.3	Cfsm	5.59	In.	75.89	Ac-ft	40,470

Peak discharge (base, 400 cfs).--Jan. 27 (1830 hrs) 790 cfs (11.52 ft); Mar. 15 (0700 hrs) 540 cfs (11.02 ft).

14-3061. North Fork Alsea River at Alsea, Oreg.

Location.--Lat 44°22'45", long 123°35'40", in SE¼ sec.1, T. 14 S., R.8 W., on left bank at Alsea, 0.2 mile upstream from bridge on Lobster Valley Road, and 0.7 mile upstream from confluence with South Fork.

Drainage area.--63.0 sq mi.

Records available.--October 1957 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 272.31 ft above mean sea level, datum of 1929. Prior to Apr. 29, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--10 years, 278 cfs (201,300 acre-ft per year).

Extremes.--Maximum daily discharge during year, 3,000 cfs Jan. 28; minimum discharge, 14 cfs Sept. 4-6, 8, 9, 20-23.

1957-67: Maximum discharge, 14,100 cfs Dec. 22, 1964 (gage height, 14.57 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement at gage height 11.80 ft; minimum, 12 cfs Sept. 25, Oct. 2, 1965.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation. Some diversions by pumping above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	16	29	178	220	900	240	400	190	75	34	18	16
2	18	27	317	260	700	260	360	180	70	32	17	16
3	17	26	436	320	550	260	340	170	65	32	16	15
4	16	25	1,160	500	440	240	320	170	60	32	17	14
5	16	25	1,330	650	380	220	300	160	60	30	17	14
6	16	28	1,000	600	320	200	280	150	60	30	18	14
7	17	27	941	480	300	180	260	140	60	30	18	15
8	17	26	752	400	280	170	240	130	55	28	18	14
9	17	27	592	340	260	200	240	130	55	28	18	14
10	16	46	986	320	240	240	220	130	55	28	18	17
11	16	324	799	300	220	260	220	130	55	28	18	22
12	21	466	766	380	200	240	200	120	55	28	18	20
13	27	289	1,250	900	240	240	300	120	50	26	17	18
14	22	631	1,080	750	300	600	380	110	50	26	16	17
15	21	577	710	600	460	1,400	420	110	46	26	16	16
16	20	499	500	480	700	1,100	500	100	46	26	16	16
17	19	372	440	420	900	1,000	550	95	44	26	16	17
18	19	261	360	380	750	850	460	95	42	24	16	18
19	19	241	320	500	600	650	400	90	40	24	16	18
20	56	224	280	850	500	550	360	90	42	24	15	16
21	63	215	260	800	400	500	320	85	44	24	16	16
22	208	181	240	750	340	460	280	85	48	24	16	16
23	101	152	220	700	300	600	260	80	55	24	16	16
24	60	131	220	650	280	700	260	80	46	24	16	16
25	45	130	240	700	260	600	260	75	42	24	16	14
26	40	132	240	1,300	240	500	240	75	40	23	16	14
27	37	118	220	2,600	220	440	240	75	38	22	17	14
28	33	108	220	3,000	220	400	220	75	36	20	16	14
29	31	98	200	2,600	------	380	220	80	36	19	16	18
30	34	97	190	1,900	------	400	200	90	34	19	16	24
31	32	------	190	1,300	------	420	------	80	------	18	16	------
TOTAL	1,090	5,532	16,637	25,950	11,500	14,500	9,250	3,490	1,504	803	516	489
MEAN	35.2	184	537	837	411	468	308	113	50.1	25.9	16.6	16.3
MAX	208	631	1,330	3,000	900	1,400	550	190	75	34	18	24
MIN	16	25	178	220	200	170	200	75	34	18	15	14
CFSM	.56	2.93	8.52	13.3	6.52	7.42	4.89	1.79	.80	.41	.26	.26
IN.	.64	3.27	9.82	15.3	6.79	8.56	5.46	2.06	.89	.47	.30	.29
AC-FT	2,160	10,970	33,000	51,470	22,810	28,760	18,350	6,920	2,980	1,590	1,020	970

CAL YR 1966: TOTAL 98,070 MEAN 269 MAX 4,500 MIN 15 CFSM 4.26 IN 57.89 AC-FT 194,500
WAT YR 1967: TOTAL 91,261 MEAN 250 MAX 3,000 MIN 14 CFSM 3.97 IN 53.87 AC-FT 181,000

Peak discharge (base, 2,000 cfs).--Jan. 28 (time and discharge unknown.)

Note.--No gage-height record Dec. 17 to July 25.

14-3065. Alsea River near Tidewater, Oreg.

Location.--Lat 44°23'10", long 123°49'50", in NW¼NW¼ sec.6, T.14 S., R.9 W., on right bank 1.0 mile downstream from Grass Creek, 2.3 miles upstream from Scott Creek, and 3.8 miles southeast of Tidewater.

Drainage area.--334 sq mi.

Records available.--October 1939 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 48.16 ft above mean sea level, datum of 1929. Prior to Nov. 16, 1939, staff gage and Nov. 16, 1939 to Aug. 12, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--28 years, 1,533 cfs (1,110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 20,900 cfs Jan. 28 (gage height, 18.82 ft); minimum, 50 cfs Sept. 29.

1939-67: Maximum discharge, 41,800 cfs Dec. 22, 1964 (gage height, 27.44 ft); minimum, 45 cfs Sept. 26, 27, 1965.

Maximum stage known, 29.5 ft on or about Feb. 3, 1890, from floodmark shown by old resident.

Remarks.--Records excellent. No regulation. A few small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	63	115	1,060	1,310	5,010	1,320	2,040	925	372	165	93	60
2	65	108	2,200	1,380	3,860	1,430	1,810	880	362	160	92	62
3	65	101	2,790	1,740	3,120	1,440	1,630	845	338	156	88	63
4	63	97	7,220	2,420	2,610	1,320	1,530	805	318	151	85	62
5	60	101	9,470	3,460	2,240	1,210	1,490	765	305	147	84	60
6	59	120	7,140	3,150	1,970	1,110	1,380	725	292	143	82	59
7	60	120	6,270	3,010	1,770	1,030	1,270	695	292	140	84	59
8	62	112	5,300	2,480	1,600	980	1,190	671	292	140	84	59
9	62	112	3,920	2,110	1,470	1,080	1,140	671	285	140	84	58
10	61	220	5,190	1,860	1,360	1,430	1,070	658	276	138	81	62
11	59	1,450	4,780	1,800	1,260	1,490	1,000	640	276	134	79	84
12	65	2,740	4,870	1,780	1,170	1,390	945	608	276	132	78	87
13	91	1,630	8,980	3,810	1,400	1,310	1,340	578	266	130	76	75
14	95	3,500	8,180	3,440	1,530	1,550	1,670	554	254	130	74	67
15	83	3,260	5,170	2,770	2,620	7,010	1,780	534	242	124	71	62
16	75	2,840	3,690	2,420	3,700	5,580	2,020	518	230	122	69	59
17	71	2,300	2,820	2,140	4,670	4,930	2,520	498	222	120	69	59
18	68	1,560	2,270	1,940	4,090	4,910	2,190	486	216	116	67	63
19	67	1,430	1,930	2,190	3,220	3,960	1,880	467	211	116	67	67
20	145	1,530	1,710	5,060	2,610	3,350	1,660	449	205	116	65	65
21	379	1,440	1,480	5,430	2,220	2,780	1,510	432	208	116	64	64
22	715	1,270	1,330	4,820	1,950	2,460	1,400	418	233	112	63	62
23	580	1,050	1,250	4,370	1,740	2,880	1,280	407	260	111	63	59
24	310	894	1,280	3,840	1,580	3,430	1,190	393	222	107	63	56
25	208	848	1,450	3,910	1,460	2,920	1,220	386	205	105	63	54
26	168	877	1,390	5,800	1,330	2,510	1,210	372	198	105	63	53
27	160	777	1,240	12,700	1,220	2,170	1,120	365	190	107	62	53
28	143	703	1,130	17,600	1,190	1,990	1,060	369	185	105	62	51
29	128	642	1,130	13,900	------	1,920	1,010	383	180	102	62	55
30	126	654	1,080	11,500	------	2,130	960	425	172	98	59	78
31	123	------	1,020	7,060	------	2,280	------	421	------	95	59	------
TOTAL	4,479	32,601	108,740	141,200	63,970	75,300	43,515	17,343	7,583	3,883	2,255	1,877
MEAN	144	1,087	3,508	4,555	2,285	2,429	1,451	559	253	125	72.7	62.6
MAX	715	3,500	9,470	17,600	5,010	7,010	2,520	925	372	165	93	87
MIN	59	97	1,020	1,310	1,170	980	945	365	172	95	59	51
AC-FT	8,880	64,660	215,700	280,100	126,900	149,400	86,310	34,400	15,040	7,700	4,470	3,720

CAL YR 1966: TOTAL 553,327 MEAN 1,516 MAX 22,000 MIN 53 AC-FT 1,098,000
WAT YR 1967: TOTAL 502,746 MEAN 1,377 MAX 17,600 MIN 51 AC-FT 997,200

Peak discharge (base, 13,000 cfs).--Jan. 28 (0530 hrs) 20,900 cfs (18.82 ft).

14-3066. Drift Creek near Salado, Oreg.

Location.--Lat 44°30'50", long 123°50'50", in NE¼ sec.24, T.12 S., R.10 W., on right bank 0.3 mile downstream from Cape Horn Creek, 4.1 miles southwest of Salado, and 8.5 miles southeast of Toledo.

Drainage area.--20.5 sq mi (revised).

Records available.--September 1958 to September 1963, June 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 460 ft (from topographic map). Prior to Sept. 30, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--7 years (1959-63, 1966-67), 120 cfs (86,880 acre-ft per year).

Extremes.--Maximum discharge during year, 1,910 cfs Jan. 27 (gage height, 8.10 ft); maximum gage height, 8.79 ft Dec. 4 (backwater from debris); minimum discharge, 4.2 cfs Sept. 24-29.

1958-63, 1965-67: Maximum discharge, 2,500 cfs Nov. 25, 1962 (gage height, 8.34 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement at gage height 8.11 ft; minimum, 3.8 cfs Sept. 7, 8, 1958.

Flood in December 1964 or January 1965, reached a stage of 9.86 ft, from floodmark in well (discharge, 4,050 cfs).

Remarks.--Records excellent except those for period of backwater from debris, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.9	17	174	129	328	95	144	65	25	12	7.0	5.2
2	6.2	15	504	119	259	110	127	61	23	11	7.0	5.5
3	5.5	13	522	176	213	105	114	58	23	11	6.7	5.2
4	5.1	13	1,330	241	181	100	110	55	21	11	6.7	4.9
5	4.8	14	852	284	156	90	115	52	21	11	6.7	4.9
6	4.8	22	660	277	136	85	114	49	20	10	6.7	4.9
7	5.2	17	579	241	121	85	101	48	20	10	6.7	4.9
8	5.3	16	417	189	108	80	93	46	20	10	6.4	4.7
9	5.0	17	363	159	99	95	94	47	20	10	6.4	4.7
10	4.7	48	435	140	90	115	86	45	19	10	6.1	6.1
11	4.8	546	368	120	80	111	80	43	20	10	6.4	8.8
12	8.7	417	420	190	75	103	77	41	19	9.6	6.1	6.4
13	10	234	865	500	130	101	227	39	18	9.6	5.8	5.5
14	7.0	388	549	400	150	205	213	37	17	9.2	5.8	5.2
15	6.5	325	343	300	200	639	184	36	17	9.2	5.5	4.9
16	5.8	276	270	240	260	555	192	34	16	9.2	5.5	4.9
17	5.4	278	197	170	400	545	195	33	15	8.8	5.5	5.2
18	5.2	190	162	220	320	469	174	32	15	8.8	5.5	5.2
19	6.3	192	141	280	260	325	159	30	15	8.8	5.2	4.9
20	58	178	130	297	200	273	139	30	15	8.8	5.2	4.7
21	44	240	114	313	170	229	124	29	16	8.8	5.2	4.9
22	279	201	101	297	150	211	111	28	20	8.4	5.2	4.7
23	130	161	100	299	130	271	99	27	18	8.4	5.2	4.4
24	62	122	99	267	110	299	90	27	15	8.0	5.2	4.4
25	35	150	141	368	100	253	97	26	15	8.0	4.9	4.2
26	31	160	123	534	95	205	92	25	14	8.4	4.9	4.4
27	28	127	103	1,410	90	174	85	25	14	8.0	5.2	4.2
28	22	104	92	1,190	90	159	79	26	13	7.7	4.9	4.2
29	20	91	92	1,020	------	151	75	27	13	7.7	4.9	6.4
30	23	83	85	736	------	156	70	33	12	7.3	4.9	13
31	19	------	82	448	------	160	------	28	------	7.3	4.9	------
TOTAL	862.2	4,655	10,413	11,554	4,701	6,554	3,660	1,182	529	286.0	178.3	161.5
MEAN	27.8	155	336	373	168	211	122	38.1	17.6	9.23	5.75	5.38
MAX	279	546	1,330	1,410	400	639	227	65	25	12	7.0	13
MIN	4.7	13	82	119	75	80	70	25	12	7.3	4.9	4.2
AC-FT	1,710	9,230	20,650	22,920	9,320	13,000	7,260	2,340	1,050	567	354	320
CFSM	1.36	7.56	16.4	18.2	8.20	10.3	5.95	18.6	.859	.450	.280	.262
IN	1.56	8.44	18.89	20.96	8.53	11.89	6.64	2.14	.96	.52	.32	.29

CAL YR 1966: TOTAL 46,971.8 MEAN 129 MAX 1,790 MIN 4.6 AC-FT 93,170 CFSM 6.29 INCHES 85.21
WAT YR 1967: TOTAL 44,736.0 MEAN 123 MAX 1,410 MIN 4.2 AC-FT 88,730 CFSM 6.00 INCHES 81.16

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-11	2400	7.22	1,030				
12- 4	0830	8.79	1,900				
12-13	1230	7.22	1,030				
1-27	2330	8.10	1,910				

Note.--Backwater from debris, Oct. 23 to Dec. 16.

14-3067. Needle Branch near Salado, Oreg.

Location.--Lat 44°30'35", long 123°51'20", in SW¼ sec.24, T.12 S., R.10 W., on right bank 500 ft upstream from mouth, 4.6 miles west of Salado, and 8.5 miles southeast of Toledo.

Drainage area.--0.27 sq mi (computed as 174.64 acres on basis of field survey by Oregon State University).

Records available.--October 1958 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 440 ft (from topographic map). Prior to Sept. 9, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 1.49 cfs (1,080 acre-ft per year).

Extremes.--Maximum discharge during year, 33 cfs Jan. 27 (gage height, 2.86 ft); minimum, 0.01 cfs Aug. 17, Sept. 14, 23-28.

1958-67: Maximum discharge, 50 cfs Jan. 28, 1965 (gage height, 3.31 ft); minimum, 0.01 cfs Sept. 8, 9, 1962, Sept. 24 to Oct. 3, 1965, Aug. 17, Sept. 14, 23-28, 1967.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures and daily suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.04	.57	1.9	2.1	3.4	1.1	1.5	.74	.27	.10	.05	.03
2	.06	.53	5.6	2.2	2.6	2.0	1.3	.71	.24	.10	.05	.04
3	.05	.50	6.1	3.4	2.2	2.2	1.1	.65	.24	.10	.05	.03
4	.04	.47	20	4.7	1.8	1.7	1.2	.62	.22	.10	.05	.03
5	.04	.51	13	5.9	1.4	1.4	1.3	.56	.22	.09	.05	.03
6	.04	.53	9.6	5.0	1.2	1.2	1.2	.54	.22	.09	.05	.03
7	.05	.46	8.3	4.1	1.1	1.0	1.2	.51	.24	.09	.05	.03
8	.05	.42	5.9	3.0	.95	.98	1.1	.48	.22	.09	.04	.03
9	.04	.59	4.5	2.3	.87	1.3	1.2	.51	.22	.09	.04	.03
10	.04	.95	4.0	2.0	.77	2.2	1.0	.46	.22	.09	.04	.06
11	.04	10	3.8	1.8	.71	2.1	.98	.43	.22	.09	.05	.06
12	.16	9.6	5.2	3.1	.65	1.8	1.1	.41	.20	.09	.04	.04
13	.11	5.5	13	7.6	2.1	1.7	5.2	.39	.19	.09	.04	.03
14	.08	6.7	7.4	5.3	2.3	5.7	4.4	.37	.17	.08	.04	.02
15	.07	4.9	4.5	4.0	5.9	18	3.5	.37	.17	.08	.03	.02
16	.06	4.1	3.1	3.1	6.0	7.6	3.7	.37	.16	.08	.03	.03
17	.05	3.5	2.2	2.6	7.9	6.0	3.6	.35	.16	.08	.03	.04
18	.05	2.8	1.7	2.2	6.0	5.5	2.9	.35	.16	.08	.03	.03
19	.17	2.7	1.5	2.7	4.1	4.2	2.2	.33	.16	.08	.03	.03
20	1.1	2.5	1.3	3.7	2.9	3.4	1.8	.31	.16	.08	.03	.03
21	1.1	2.8	1.1	4.5	2.2	2.6	1.4	.31	.19	.07	.03	.03
22	4.5	2.5	1.0	4.4	1.7	2.4	1.2	.29	.27	.07	.03	.03
23	2.8	2.1	1.1	4.2	1.3	3.2	1.1	.29	.17	.07	.03	.02
24	1.8	1.7	1.1	3.6	1.1	4.4	.91	.27	.16	.07	.03	.02
25	1.3	2.0	1.5	3.7	.98	3.7	1.1	.25	.14	.07	.03	.02
26	1.1	1.9	1.7	5.7	.84	2.9	.91	.25	.14	.08	.03	.02
27	.89	1.7	1.4	19	.74	2.2	.87	.25	.14	.07	.03	.02
28	.78	1.5	1.3	16	.98	1.8	.84	.29	.13	.06	.03	.02
29	.74	1.3	1.3	15	------	1.8	.80	.35	.12	.06	.03	.09
30	.69	1.3	1.2	9.3	------	1.7	.77	.46	.12	.06	.03	.39
31	.61	------	1.3	4.6	------	1.6	------	.29	------	.05	.03	------
TOTAL	18.65	76.63	136.6	160.8	64.69	99.38	51.38	12.76	5.64	2.50	1.15	1.33
MEAN	.60	2.55	4.41	5.19	2.31	3.21	1.71	.41	.19	.081	.037	.044
MAX	4.5	10	20	19	7.9	18	5.2	.74	.27	.10	.05	.39
MIN	.04	.42	1.0	1.8	.65	.98	.77	.25	.12	.05	.03	.02
AC-FT	37	152	271	319	128	197	102	25	11	5.0	2.3	2.6
CFSM	2.22	9.44	16.3	19.2	8.56	11.9	6.33	1.52	.704	.300	.137	.163
IN	2.57	10.56	18.82	22.15	8.91	13.69	7.08	1.76	.78	.34	.16	.18

CAL YR 1966: TOTAL 584.33 MEAN 1.60 MAX 22 MIN .04 AC-FT 1,160 CFSM 5.93 INCHES 80.49
WAT YR 1967: TOTAL 631.51 MEAN 1.73 MAX 20 MIN .02 AC-FT 1,250 CFSM 6.41 INCHES 86.98

Peak discharge (base, 15 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-11	2230	2.55	19	1-27	2330	2.86	33
12- 4	1215	2.70	26	3-15	0430	2.66	24
12-13	1530	2.41	15				

14-3068. Flynn Creek near Salado, Oreg.

Location.--Lat 44°32'20", long 123°51'05", in SW¼ sec.12, T.12 S., R.10 W., on right bank 1,000 ft upstream from mouth, 3.4 miles west of Salado, and 6.9 miles southeast of Toledo.

Drainage area.--0.78 sq mi (computed as 501.96 acres on basis of field survey by Oregon State University).

Records available.--September 1958 to September 1967.

Gage.--Digital water-stage recorder. Concrete control since 1958. Altitude of gage is 685 ft (from topographic map). Prior to Sept. 9, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 4.39 cfs (3,180 acre-ft per year).

Extremes.--Maximum discharge during year, 70 cfs Jan. 27 (gage height, 4.19 ft); minimum, 0.07 cfs Sept. 27.

1958-67: Maximum discharge, 137 cfs Jan. 28, 1965 (gage height, 4.72 ft); minimum, 0.07 cfs Sept. 27, 1967.

Remarks.--Records good. Records of water temperatures and daily suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.11	.38	3.1	3.7	14	4.0	4.5	2.6	.91	.42	.21	.12
2	.18	.36	7.1	3.8	11	4.9	4.1	2.6	.82	.41	.20	.14
3	.12	.34	8.7	5.7	8.9	5.2	3.8	2.4	.80	.40	.20	.12
4	.11	.32	28	9.2	7.6	5.0	3.8	2.3	.78	.38	.20	.12
5	.10	.40	29	13	6.5	4.6	4.1	2.2	.74	.37	.19	.11
6	.11	.55	24	12	5.6	4.2	3.8	2.1	.73	.36	.19	.12
7	.15	.41	23	10	4.9	3.9	3.7	2.0	.74	.36	.19	.11
8	.14	.38	17	8.8	4.3	3.8	3.6	2.0	.72	.36	.18	.11
9	.11	.52	13	7.4	3.9	4.4	3.7	1.9	.69	.35	.17	.11
10	.11	.93	11	6.5	3.6	5.2	3.4	1.8	.69	.34	.17	.23
11	.10	11	9.7	5.6	3.2	5.2	3.3	1.7	.69	.33	.17	.21
12	.32	12	12	6.8	3.0	5.1	3.3	1.7	.66	.33	.15	.14
13	.22	6.2	27	17	4.6	5.0	10	1.6	.63	.33	.15	.12
14	.16	8.7	23	16	5.0	7.6	11	1.5	.62	.31	.14	.11
15	.15	7.2	15	13	13	28	9.7	1.4	.60	.30	.14	.11
16	.13	6.8	11	10	16	19	9.9	1.4	.57	.30	.14	.11
17	.12	6.1	8.5	8.5	22	15	9.7	1.3	.56	.30	.14	.12
18	.11	4.9	6.8	7.5	20	13	8.6	1.3	.54	.29	.14	.12
19	.24	4.7	5.8	8.1	15	12	7.4	1.2	.54	.29	.12	.11
20	1.3	4.1	5.2	9.8	11	9.9	6.3	1.2	.54	.29	.12	.11
21	.95	4.0	4.3	11	8.8	8.1	5.5	1.1	.61	.28	.12	.11
22	2.6	3.5	3.9	11	7.4	7.2	4.7	1.1	.86	.26	.12	.11
23	1.5	3.2	3.7	11	6.4	7.8	4.2	1.1	.63	.26	.12	.10
24	.83	3.0	3.6	9.7	5.5	8.8	3.7	1.0	.56	.26	.12	.09
25	.59	3.2	3.7	9.2	4.9	8.8	3.9	.99	.53	.25	.12	.09
26	.66	3.0	3.5	11	4.1	8.1	3.5	.96	.50	.26	.12	.09
27	.59	2.9	3.4	43	3.7	7.1	3.2	.94	.49	.24	.13	.09
28	.50	2.7	3.2	51	4.2	6.3	3.1	.98	.47	.23	.12	.09
29	.48	2.5	3.4	39	------	5.8	3.0	1.0	.46	.23	.12	.21
30	.50	2.6	3.1	32	------	5.2	2.8	1.3	.44	.22	.12	.65
31	.43	------	3.2	19	------	4.9	------	1.0	------	.22	.12	------
TOTAL	13.72	106.89	326.9	429.3	228.1	243.1	155.3	47.67	19.12	9.53	4.64	4.18
MEAN	.44	3.56	10.5	13.8	8.15	7.84	5.18	1.54	.64	.31	.15	.14
MAX	2.6	12	29	51	22	28	11	2.6	.91	.42	.21	.65
MIN	.10	.32	3.1	3.7	3.0	3.8	2.8	.94	.44	.22	.12	.09
AC-FT	27	212	648	852	452	482	308	95	38	19	9.2	8.3
CFSM	.56	4.56	13.5	17.7	10.4	10.1	6.64	1.97	.82	.40	.19	.18
IN	.65	5.10	15.59	20.47	10.88	11.59	7.40	2.27	.91	.45	.22	.20

CAL YR 1966: TOTAL 1,516.36 MEAN 4.15 MAX 60 MIN .10 AC-FT 3,010 CFSM 5.32 INCHES 72.30

WAT YR 1967: TOTAL 1,588.45 MEAN 4.35 MAX 51 MIN .09 AC-FT 3,150 CFSM 5.58 INCHES 75.74

Peak discharge (base, 40 cfs).--Jan. 27 (2330 hrs) 70 cfs (4.19 ft).

14-3068.1 Deer Creek near Salado, Oreg.

Location.--Lat 44°32'05", long 123°52'35", in SW¼ sec.11, T.12 S., R.10 W., on right bank 1,000 ft upstream from mouth, 4.6 miles west of Salado, and 6.5 miles southeast of Toledo.

Drainage area.--1.17 sq mi (computed as 749.5 acres on basis of field survey by Oregon State University).

Records available.--September 1958 to September 1967.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 600 ft (from topographic map). Prior to Sept. 9, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 6.37 cfs (4,610 acre-ft per year).

Extremes.--Maximum discharge during year, 105 cfs Jan. 27 (gage height, 3.55 ft); minimum, 0.16 cfs, Sept. 26, 27.

1958-67: Maximum discharge, 201 cfs Jan. 28, 1965 (gage height, 4.21 ft); minimum, 0.16 cfs Sept. 26, 27, 1967.

Remarks.--Records good. No regulation or diversion above station. Records of water temperatures and daily suspended sediment loads for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	.26	1.4	5.2	6.0	18	5.7	6.5	3.9	1.3	.65	.36	.26
2	.34	1.2	12	6.2	14	6.9	5.9	3.8	1.2	.62	.36	.28
3	.28	1.2	14	9.9	11	7.4	5.4	3.5	1.2	.62	.34	.26
4	.26	1.1	42	16	9.7	7.0	5.4	3.4	1.1	.59	.34	.24
5	.24	1.2	41	20	8.2	6.2	6.1	3.1	1.1	.59	.34	.24
6	.24	1.5	34	16	7.2	5.6	6.1	3.0	1.1	.56	.34	.26
7	.30	1.2	31	13	6.4	4.8	6.0	2.9	1.1	.56	.34	.24
8	.30	1.1	22	11	5.7	4.6	5.7	2.7	1.1	.56	.34	.22
9	.26	1.3	17	8.8	5.1	5.4	5.9	2.7	1.0	.56	.32	.24
10	.26	2.1	15	8.0	4.6	7.0	5.2	2.4	1.0	.53	.34	.36
11	.24	22	15	7.4	4.2	7.5	4.9	2.4	1.0	.51	.32	.36
12	.45	31	18	9.4	3.8	7.1	4.9	2.3	.96	.53	.30	.28
13	.40	15	43	29	6.8	6.8	16	2.1	.92	.51	.30	.26
14	.34	17	30	24	7.7	10	17	2.1	.88	.48	.30	.24
15	.34	14	19	17	20	47	14	2.0	.84	.48	.28	.22
16	.30	11	13	14	25	26	14	1.9	.84	.48	.28	.24
17	.28	9.6	10	12	34	19	13	1.8	.81	.48	.28	.26
18	.28	7.8	8.7	9.9	26	18	11	1.7	.78	.45	.28	.24
19	.40	7.4	7.6	11	17	15	9.4	1.7	.78	.45	.26	.22
20	2.0	6.5	7.1	15	13	12	8.0	1.6	.81	.45	.26	.21
21	1.9	6.6	6.2	16	10	10	7.0	1.6	.88	.45	.28	.21
22	5.7	5.9	5.7	16	8.6	9.4	6.1	1.5	1.3	.43	.26	.21
23	4.9	5.3	5.6	15	7.5	11	5.5	1.5	1.0	.43	.26	.21
24	3.4	4.6	5.5	13	6.6	12	4.9	1.4	.88	.43	.26	.19
25	2.5	5.1	5.9	12	6.0	12	5.5	1.4	.81	.45	.24	.19
26	2.4	4.9	5.8	15	5.2	10	4.9	1.3	.78	.43	.24	.18
27	2.3	4.7	5.5	69	4.7	8.8	4.7	1.3	.78	.40	.26	.18
28	1.9	4.4	5.2	66	5.5	7.8	4.5	1.4	.72	.40	.24	.18
29	1.7	3.9	5.3	53	------	7.6	4.4	1.5	.72	.38	.24	.32
30	1.7	4.1	4.8	39	------	7.2	4.2	1.8	.68	.38	.24	.75
31	1.5	------	4.8	23	------	6.9	------	1.4	------	.36	.26	------
TOTAL	37.67	204.1	464.9	600.6	301.5	331.7	222.1	67.1	28.37	15.20	9.06	7.75
MEAN	1.22	6.80	15.0	19.4	10.8	10.7	7.40	2.16	.95	.49	.29	.26
MAX	5.7	31	43	69	34	47	17	3.9	1.3	.65	.36	.75
MIN	.24	1.1	4.8	6.0	3.8	4.6	4.2	1.3	.68	.36	.24	.18
AC-FT	75	405	922	1,190	598	658	441	133	56	30	18	15
CFSM	1.04	5.81	12.8	16.6	9.23	9.15	6.32	1.85	.812	.419	.248	.222
IN	1.20	6.49	14.78	19.09	9.58	10.54	7.06	2.13	.90	.48	.29	.25

CAL YR 1966: TOTAL 2,260.11 MEAN 6.19 MAX 92 MIN .21 AC-FT 4,480 CFSM 5.29 INCHES 71.84

WAT YR 1967: TOTAL 2,290.05 MEAN 6.27 MAX 69 MIN .18 AC-FT 4,540 CFSM 5.36 INCHES 72.79

Peak discharge (base, 60 cfs).--Jan. 27 (2230 hrs) 105 cfs (3.55 ft).

14-3077. Jackson Creek near Tiller, Oreg.

Location.--Lat 42°57'15", long 122°49'40", in SW¼NE¼ sec. 21, T.30 S., R.1 W., on right bank 0.5 mile upstream from Chapman Creek, 0.8 mile downstream from Beaver Creek, 6.5 miles northeast of Tiller, and at mile 3.0. Records include flow of Chapman Creek.

Drainage area.--152 sq mi, at cableway 0.6 mile downstream where all discharge measurements are made.

Records available.--October 1955 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,240.25 ft above mean sea level (levels by Douglas County Water Resources Survey). Prior to Sept. 20, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--12 years, 317 cfs (229,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,230 cfs Dec. 4 (gage height, 6.97 ft); minimum, 17 cfs Oct. 10, 11.

1955-67: Maximum discharge, 21,100 cfs Dec. 22, 1964 (gage height, 18.0 ft, from floodmark), from rating curve extended above 5,100 cfs on basis of logarithmic plotting and basin run-off comparison; minimum daily, 12 cfs Oct. 2-4, 1955.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	19	24	626	195	900	523	259	295	298	62	29	20
2	19	23	597	202	650	564	250	283	295	59	28	20
3	19	23	506	202	550	471	256	295	273	56	27	20
4	18	22	1,260	231	500	402	283	339	273	52	27	20
5	18	23	1,750	242	450	350	295	376	267	50	26	20
6	18	79	979	226	400	308	312	406	261	49	26	20
7	18	60	735	213	350	276	322	523	242	47	26	20
8	18	42	675	206	320	250	318	675	229	46	26	20
9	18	36	573	231	300	247	295	919	216	45	26	20
10	17	89	818	343	280	329	276	957	204	44	26	20
11	17	483	844	475	260	315	259	710	190	43	26	21
12	19	283	990	555	250	318	239	588	182	41	25	22
13	25	205	1,170	903	240	312	231	501	173	40	24	21
14	24	973	1,090	797	240	298	218	467	169	39	24	20
15	22	1,820	792	636	240	312	204	519	158	38	23	20
16	21	1,890	636	555	300	1,050	195	651	152	37	23	19
17	20	756	537	463	1,000	968	223	751	145	36	23	21
18	20	442	459	395	1,200	745	261	710	136	35	23	28
19	19	546	395	357	800	602	279	660	128	35	22	25
20	26	1,790	364	802	550	573	256	646	143	35	22	22
21	49	1,320	322	1,040	475	564	245	646	121	34	22	21
22	138	865	279	705	430	541	247	616	112	34	22	21
23	132	578	247	519	414	680	261	564	107	33	21	20
24	73	418	218	430	406	573	264	475	97	32	21	20
25	48	339	223	360	442	480	329	402	89	31	21	19
26	37	379	211	450	410	414	391	361	83	31	21	19
27	32	339	190	1,200	368	357	372	332	78	31	21	19
28	29	463	175	2,500	354	322	339	339	73	30	21	19
29	27	695	173	2,000	------	301	318	346	69	29	21	19
30	26	550	184	1,400	------	286	315	318	66	29	20	21
31	25	------	171	1,100	------	279	------	305	------	29	20	------
TOTAL	1,011	15,555	18,189	19,933	13,079	14,010	8,312	15,975	5,029	1,232	733	617
MEAN	32.6	519	587	643	467	452	277	515	168	39.7	23.6	20.6
MAX	138	1,890	1,750	2,500	1,200	1,050	391	957	298	62	29	28
MIN	17	22	171	195	240	247	195	283	66	29	20	19
CFSM	.21	3.41	3.86	4.23	3.07	2.97	1.82	3.39	1.10	.26	.16	.14
IN.	.25	3.81	4.45	4.88	3.20	3.43	2.03	3.91	1.23	.30	.18	.15
AC-FT	2,010	30,850	36,080	39,540	25,940	27,790	16,490	31,690	9,970	2,440	1,450	1,220

CAL YR 1966: TOTAL 111,235 MEAN 305 MAX 4,180 MIN 17 CFSM 2.01 IN 27.22 AC-FT 220,600
WAT YR 1967: TOTAL 113,675 MEAN 311 MAX 2,500 MIN 17 CFSM 2.05 IN 27.81 AC-FT 225,500

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0130	6.90	3,160	1- 28	0900	6.84	3,100
12- 4	2200	6.97	3,230				

14-3080. South Umpqua River at Tiller, Oreg.

Location.--Lat 42°55'50", long 122°56'50", in NE¼ sec.33, T.30 S., R.2 W., on right bank 0.3 mile upstream from bridge on State Highway 227 at Tiller, 0.3 mile upstream from Elk Creek, and at mile 187.31.

Drainage area.--449 sq mi.

Records available.--October 1910 to December 1911, October 1939 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Prior to December 1911, published as South Fork of Umpqua River at Tiller.

Gage.--Digital water-stage recorder. Datum of gage is 991.8 ft above mean sea level, datum of 1929 (river-profile survey). Prior to Oct. 1, 1939, staff gage at site 0.2 mile downstream at different datum. Oct. 1, 1939, to Apr. 27, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 1,032 cfs (747,100 acre-ft per year).

Extremes.--Maximum discharge during year, 10,700 cfs Jan. 28 (gage height, 10.78 ft); minimum, 38 cfs Sept. 29.

1910-11, 1939-67: Maximum discharge, 60,200 cfs Dec. 22, 1964 (gage height, 25.72 ft); minimum observed, 20 cfs Sept. 3, 4, 1911.

Remarks.--Records good. No regulation. Small diversions above station for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	46	78	1,640	702	2,980	1,580	901	950	752	193	76	47
2	45	74	1,620	749	2,340	1,730	892	897	748	183	74	46
3	44	71	1,400	743	1,930	1,470	935	916	684	173	72	46
4	43	69	3,290	925	1,710	1,270	1,110	1,010	678	164	70	47
5	42	69	5,350	995	1,570	1,100	1,130	1,070	691	157	69	47
6	41	163	2,950	897	1,390	978	1,150	1,100	681	151	68	46
7	41	164	2,330	831	1,260	892	1,130	1,340	630	147	68	46
8	41	117	2,240	775	1,150	824	1,090	1,700	594	144	67	47
9	41	101	1,880	832	1,060	811	981	2,280	562	140	66	46
10	40	278	2,980	1,200	970	1,100	907	2,550	533	135	67	46
11	40	2,060	3,130	1,650	884	1,060	846	1,960	502	131	68	48
12	44	1,370	3,730	1,920	822	1,050	779	1,670	485	127	67	60
13	75	893	4,180	3,390	838	1,010	751	1,410	463	123	64	61
14	74	3,710	4,140	2,880	820	969	735	1,290	447	119	61	51
15	63	7,110	2,800	2,200	834	964	680	1,360	431	112	60	47
16	56	6,310	2,180	1,870	1,020	2,400	642	1,630	426	107	59	45
17	53	2,490	1,800	1,520	3,390	2,640	713	1,910	422	109	56	47
18	50	1,460	1,490	1,280	4,170	2,080	810	1,840	413	105	55	64
19	48	1,330	1,270	1,140	2,760	1,730	864	1,710	398	102	54	65
20	58	4,160	1,140	2,990	2,020	1,740	815	1,650	405	101	52	55
21	193	3,560	1,010	3,530	1,690	1,910	774	1,670	362	99	51	51
22	614	2,500	879	2,440	1,540	1,810	767	1,630	332	96	50	47
23	677	1,720	788	1,850	1,540	2,070	801	1,480	313	91	51	44
24	328	1,270	701	1,530	1,510	1,770	794	1,250	286	90	50	43
25	199	1,040	773	1,310	1,600	1,470	924	1,050	268	90	50	41
26	148	1,230	770	2,630	1,460	1,270	1,170	922	253	88	50	40
27	123	1,080	683	5,710	1,290	1,090	1,200	852	238	85	49	40
28	108	1,240	614	8,720	1,220	994	1,150	832	224	84	49	39
29	96	1,850	595	6,730	------	953	1,060	924	213	82	47	39
30	88	1,490	670	4,620	------	921	1,020	839	203	77	46	43
31	82	------	629	3,870	------	944	------	846	------	76	53	------
TOTAL	3,641	49,057	59,652	72,429	45,768	42,600	27,521	42,538	13,637	3,681	1,839	1,434
MEAN	117	1,635	1,924	2,336	1,635	1,374	917	1,372	455	119	59.3	47.8
MAX	677	7,110	5,350	8,720	4,170	2,640	1,200	2,550	752	193	76	65
MIN	40	69	595	702	820	811	642	832	203	76	46	39
CFSM	.26	3.64	4.29	5.20	3.64	3.06	2.04	3.06	1.01	.26	.13	.11
IN.	.30	4.06	4.94	6.00	3.79	3.53	2.28	3.52	1.13	.30	.15	.12
AC-FT	7,220	97,300	118,300	143,700	90,780	84,500	54,590	84,370	27,050	7,300	3,650	2,840

CAL YR 1966: TOTAL 361,168 MEAN 990 MAX 15,100 MIN 39 CFSM 2.20 IN 29.92 AC-FT 716,400
WAT YR 1967: TOTAL 363,797 MEAN 997 MAX 8,720 MIN 39 CFSM 2.22 IN 30.13 AC-FT 721,600

Peak discharge (base, 7,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0230	10.11	9,480				
12- 4	2230	10.00	9,290				
1-28	0930	10.78	10,700				

14-3085. Elk Creek near Drew, Oreg.

Location.--Lat 42°53'25", long 122°55'00", in SW¼ sec.11, T.31 S., R.2 W., on right bank 100 ft downstream from Dixon Creek, 0.1 mile upstream from Drew Creek, 1.3 miles northwest of Drew, 3.3 miles southeast of Tiller, and at mile 4.1.

Drainage area.--54.4 sq mi.

Records available.--September 1954 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,279.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 84.6 cfs (61,250 acre-ft per year).

Extremes.--Maximum discharge during year, 2,230 cfs Dec. 4 (gage height, 6.82 ft); minimum, 0.11 cfs Sept. 3, 5-7, 9, 10.

1954-67: Maximum discharge, 8,880 cfs Dec. 22, 1964 (gage height, 10.61 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement at gage height, 10.34 ft; minimum, 0.11 cfs Sept. 3, 5-7, 9, 10, 1967.

Maximum stage known, 11.8 ft, from floodmarks, probably for flood in January or November 1953 (discharge, about 11,000 cfs).

Remarks.--Records good. No regulation. Several diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.1	2.2	218	71	244	95	89	92	32	4.5	1.2	.14
2	1.0	2.2	215	73	184	102	90	84	35	4.0	.97	.18
3	1.1	2.2	184	68	150	92	97	80	27	3.8	.90	.18
4	1.1	2.2	315	74	130	81	129	81	23	3.4	.83	.14
5	1.0	2.4	313	85	118	71	126	81	20	3.1	.73	.23
6	.79	5.1	370	83	105	64	126	81	18	3.0	.79	.11
7	.79	5.9	266	86	93	57	124	80	16	2.9	1.0	.14
8	1.0	4.5	242	81	83	52	115	79	16	2.9	.82	.14
9	1.0	4.3	206	99	75	52	99	99	15	2.8	.96	.14
10	1.0	13	418	146	69	92	90	122	14	2.7	.77	.18
11	1.2	76	351	164	63	98	82	105	14	2.7	.62	.54
12	1.4	40	355	159	58	97	76	106	13	2.6	.55	.55
13	1.7	32	376	213	65	92	71	91	13	2.5	.41	.65
14	1.5	271	317	180	69	85	68	80	12	2.2	.38	.57
15	1.7	614	218	148	84	86	61	72	11	2.2	.35	.49
16	1.5	534	168	129	117	374	59	66	9.9	2.1	.40	.49
17	1.5	181	137	110	446	265	78	60	9.4	2.2	.25	.81
18	1.4	110	114	94	350	196	113	53	8.9	2.1	.23	4.1
19	1.4	217	96	109	221	163	114	47	7.9	2.1	.28	2.4
20	1.9	628	89	644	161	185	100	41	8.4	2.1	.45	1.5
21	3.6	475	80	484	130	174	91	36	8.4	1.7	.35	1.2
22	9.9	273	69	277	113	149	89	33	8.0	1.7	.45	1.1
23	13	170	61	190	103	163	101	30	8.0	1.4	.34	1.0
24	6.7	122	54	155	96	140	94	27	7.5	1.5	.34	1.1
25	4.4	100	62	138	114	118	98	25	7.0	1.5	.38	.97
26	3.4	122	63	459	98	101	98	23	6.7	1.5	.53	.93
27	2.9	107	53	663	86	87	94	21	6.0	1.5	.40	.91
28	2.6	136	47	1,100	79	81	88	21	5.7	1.3	.37	.80
29	2.4	187	50	745	------	84	84	22	5.4	1.4	.34	.70
30	2.2	139	64	452	------	94	96	24	5.0	1.2	.18	.86
31	2.2	------	58	353	------	97	------	35	------	1.2	.23	------
TOTAL	78.38	4,578.0	6,629	7,832	3,704	3,687	2,840	1,897	391.2	71.8	16.80	23.25
MEAN	2.53	153	214	253	132	119	94.7	61.2	13.0	2.32	.54	.78
MAX	13	628	315	1,100	446	374	129	122	35	4.5	1.2	4.1
MIN	.79	2.2	47	68	58	52	59	21	5.0	1.2	.18	.11
AC-FT	155	9,080	13,150	15,530	7,350	7,310	5,630	3,760	776	142	33	46

CAL YR 1966: TOTAL 36,696.18 MEAN 101 MAX 2,250 MIN .30 AC-FT 72,790
WAT YR 1967: TOTAL 31,748.43 MEAN 87.0 MAX 1,100 MIN .11 AC-FT 62,970

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2400	5.72	1,200	1- 28	0500	6.21	1,630
12- 4	2130	6.82	2,230				

14-3087. Days Creek at Days Creek, Oreg.

Location.--Lat 42°58'55", long 123°08'55", in NE¼ sec.10, T.30 S., R.4 W., on left bank 150 ft downstream from Wood Creek, 1.0 mile northeast of town of Days Creek, and at mile 1.3.

Drainage area.--55.3 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Staff gage read once or twice daily, and crest-stage gage. Altitude of gage is 810 ft (from topographic map). Prior to Oct. 1, 1962, wire-weight gage and crest-stage gage at site 170 ft upstream at datum 3.06 ft higher.

Average discharge.--12 years, 45.4 cfs (32,870 acre-ft per year).

Extremes.--Maximum discharge during year, 990 cfs Dec. 5 (gage height, 6.85 ft, from floodmark); minimum observed, 0.27 cfs Aug. 22 to Sept. 9.

1955-67: Maximum discharge, 3,450 cfs Feb. 21, 1956 (gage height, 11.24 ft, site and datum then in use), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; no flow for many days in July and August 1961.

Remarks.--Records good. No regulation. Several diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	2.6	74	20	163	36	48	33	10	1.8	0.42	0.27
2	1.1	2.1	87	22	120	36	44	30	9.1	1.6	.42	.27
3	1.1	2.1	96	24	91	38	41	28	8.6	1.3	.38	.27
4	1.1	2.1	507	25	76	38	42	27	8.6	1.1	.38	.27
5	.97	5.6	577	41	66	36	42	24	8.0	.99	.38	.27
6	.97	8.4	243	48	57	34	41	23	7.4	.99	.38	.27
7	.97	6.0	204	59	48	28	39	22	6.9	.88	.34	.27
8	.97	3.2	220	87	41	22	36	21	6.5	.88	.34	.27
9	.97	3.7	149	87	36	36	33	20	6.0	.78	.34	.27
10	.97	21	135	87	34	87	30	19	5.6	.67	.34	.34
11	1.3	66	108	87	31	96	25	19	5.1	.61	.34	.99
12	1.7	38	86	87	29	96	21	18	4.7	.49	.34	.88
13	2.1	31	96	87	40	73	25	17	3.3	.49	.34	.88
14	1.9	323	98	85	50	66	27	16	4.0	.49	.34	.88
15	1.7	457	71	76	86	78	27	16	3.3	.49	.42	.78
16	1.7	390	52	55	152	96	36	14	3.3	.42	.34	.78
17	1.7	182	45	45	335	84	31	13	3.3	.42	.34	1.1
18	1.7	144	42	39	256	73	31	13	3.0	.42	.31	.99
19	1.7	106	44	48	144	59	38	12	3.0	.42	.31	.99
20	1.7	88	41	187	104	55	41	12	3.0	.42	.31	.99
21	2.6	376	31	361	81	60	45	11	3.2	.42	.31	.99
22	15	154	22	212	67	64	39	9.7	3.3	.42	.27	.99
23	26	78	20	152	55	59	35	9.1	3.0	.42	.27	.99
24	9.1	74	17	105	47	54	34	8.6	3.0	.42	.27	.99
25	5.6	59	17	76	55	48	36	8.0	2.8	.42	.27	.99
26	4.3	66	17	228	44	44	35	7.4	2.8	.42	.27	.99
27	3.4	61	17	245	39	39	34	6.9	2.5	.42	.27	.99
28	3.2	87	17	416	38	41	35	8.6	2.3	.42	.27	.99
29	2.6	85	17	253		48	36	9.1	2.3	.42	.27	.99
30	2.6	66	18	199	- - - - -	51	35	9.7	2.0	.42	.27	1.3
31	2.6	- - - - -	19	212	- - - - -	51	- - - - -	11	- - - - -		.27	- - - - -
Total	104.42	2,987.8	3,187	3,755	2,385	1,726	1,062	496.1	139.9	19.86	10.12	22.24
Mean	3.37	99.6	103	121	85.2	55.7	35.4	16.0	4.66	0.66	0.33	0.74
Max	26	457	577	416	335	96	48	33	10	1.8	0.42	1.3
Min	0.97	2.1	17	20	29	22	21	6.9	2.0	0.42	0.27	0.27
Ac-ft	207	5,930	6,320	7,450	4,730	3,420	2,110	984	277	39	20	44

Cal yr 1966: Total	16,719.74	Mean	45.8	Max	1,310	Min	0.13	Ac-ft 33,160
Wtr yr 1967: Total	15,895.44	Mean	43.6	Max	577	Min	0.27	Ac-ft 31,530

Peak discharge (base, 900 cfs).--Dec. 5 (0200 hrs) 990 cfs (6.85 ft).

14-3090. Cow Creek near Azalea, Oreg.

Location.--Lat 42°49'30", long 123°10'40", in N½ sec.4, T.32 S., R.4 W., on right bank 0.8 mile upstream from Whitehorse Creek, 4.5 miles northeast of Azalea, and at mile 58.2.

Drainage area.--78.0 sq mi.

Records available.--April 1926 to September 1928 (no winter records), April 1929 to December 1931, April 1932 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,685 ft (by barometer). Prior to July 19, 1949, staff gage and July 19, 1949, to Apr. 26, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--37 years (1929-31, 1932-67), 108 cfs (78,190 acre-ft per year).

Extremes.--Maximum discharge during year, 2,040 cfs Jan. 28 (gage height, 7.26 ft); minimum, 7.1 cfs Aug. 20.

1926-67: Maximum discharge, 8,430 cfs Dec. 22, 1964 (gage height, 15.63 ft); minimum observed, 4 cfs Sept. 9-19, 1929, Aug. 26-28, 1931, Aug. 21 to Sept. 6, 1934.

Remarks.--Records good. No regulation. Diversions for irrigation of 400 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.8	15	281	94	412	141	147	102	61	21	11	9.3
2	9.9	15	288	93	341	135	139	96	64	21	10	9.0
3	10	15	240	90	299	126	137	94	54	20	10	9.1
4	10	15	853	96	269	117	139	96	50	19	10	9.3
5	10	15	954	103	246	108	139	97	47	18	10	9.4
6	9.9	22	449	96	226	102	137	96	44	18	10	9.4
7	10	23	355	96	200	96	139	97	42	18	11	9.7
8	10	18	337	93	187	93	131	99	41	19	11	10
9	10	18	302	94	173	93	124	122	40	19	10	10
10	10	27	533	106	162	124	120	139	39	18	10	10
11	10	50	426	135	150	115	115	120	38	17	9.8	11
12	12	41	433	137	139	113	108	126	37	16	9.3	13
13	15	44	435	139	152	108	110	115	36	16	8.9	12
14	13	425	378	126	150	106	112	105	34	16	8.9	11
15	12	909	292	115	147	122	102	99	32	15	8.5	11
16	12	626	242	110	154	516	102	96	31	15	8.5	10
17	12	194	203	102	338	341	117	91	30	15	8.1	12
18	11	117	175	97	350	279	120	85	30	14	8.2	18
19	11	160	154	105	276	235	115	78	28	14	8.2	16
20	15	421	147	611	226	283	108	74	28	14	7.9	15
21	29	447	135	503	198	267	103	69	28	14	8.1	14
22	28	283	118	332	180	240	103	65	28	14	8.0	14
23	28	194	108	260	169	265	103	61	29	13	7.8	14
24	20	137	100	226	160	226	106	59	28	13	7.9	14
25	17	117	108	212	162	198	115	56	27	12	8.8	13
26	16	122	105	567	145	175	117	54	25	13	9.5	13
27	15	120	94	743	131	160	115	51	23	13	9.9	13
28	15	150	88	1,420	126	152	112	51	23	12	9.9	13
29	15	207	88	1,180	------	156	106	56	22	12	9.4	14
30	15	152	96	714	------	156	108	57	21	11	9.2	16
31	15	------	88	541	------	156	------	71	------	11	9.4	------
TOTAL	435.6	5,099	8,605	9,336	5,868	5,504	3,549	2,677	1,060	481	287.2	362.2
MEAN	14.1	170	278	301	210	178	118	86.4	35.3	15.5	9.26	12.1
MAX	29	909	954	1,420	412	516	147	139	64	21	11	18
MIN	9.8	15	88	90	126	93	102	51	21	11	7.8	9.0
CFSM	.18	2.18	3.56	3.86	2.69	2.28	1.52	1.11	.45	.20	.12	.15
IN.	.21	2.43	4.10	4.45	2.80	2.62	1.69	1.28	.51	.23	.14	.17
AC-FT	864	10,110	17,070	18,520	11,640	10,920	7,040	5,310	2,100	954	570	718

CAL YR 1966: TOTAL 50,884.1 MEAN 139 MAX 2,600 MIN 8.0 CFSM 1.79 IN 24.26 AC-FT 100,900
WAT YR 1967: TOTAL 43,264.0 MEAN 119 MAX 1,420 MIN 7.8 CFSM 1.52 IN 20.63 AC-FT 85,810

Peak discharge (base, 1,300 cfs).--Dec. 4 (2300 hrs) 1,990 cfs (7.16 ft); Jan. 28 (0830 hrs) 2,040 cfs (7.26 ft).

14-3095. West Fork Cow Creek near Glendale, Oreg.

Location.--Lat 42°48'15", long 123°36'35", in SW¼NE¼ sec.11, T.32 S., R.8 W., on left bank 1.6 miles downstream from Bear Creek, 11 miles northwest of Glendale, and at mile 0.8.

Drainage area.--86.9 sq mi.

Records available.--August 1955 to September 1967.

Gage.--Water-stage recorder. Altitude of gage is 1,000 ft (from topographic map). Prior to June 8, 1964, at site 0.6 mile upstream at different datum.

Average discharge.--12 years, 282 cfs (204,200 acre-ft per year).

Extremes.--Maximum discharge during year, 7,340 cfs Dec. 4 (gage height, 12.52 ft, from floodmark); minimum, 7.0 cfs Oct. 11, 12.

1955-67: Maximum discharge, 15,700 cfs Dec. 22, 1964 (gage height, 18.59 ft, from floodmark) from rating curve extended above 2,600 cfs on basis of slope-area measurement of peak flow; minimum, 6.3 cfs Oct. 2, 1958, Oct. 25, 1964.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.4	11	600	135	892	169	320	198	65	24	13	8.1
2	9.1	10	1,500	142	644	169	307	188	85	22	13	8.1
3	8.4	10	1,000	145	534	159	307	195	70	24	12	8.1
4	8.4	10	2,000	157	450	147	299	198	64	23	12	8.1
5	8.4	9.4	3,200	178	382	142	274	188	58	20	12	8.1
6	8.4	11	1,310	172	337	130	246	178	55	20	12	8.1
7	8.4	13	1,390	208	295	122	239	169	52	21	12	8.1
8	8.4	14	1,300	199	254	118	220	162	50	20	12	8.1
9	8.8	14	871	190	227	115	202	162	50	19	12	8.1
10	7.7	13	1,410	208	202	172	191	162	49	20	12	8.1
11	7.0	15	1,120	325	181	165	195	150	48	19	12	8.5
12	7.4	30	1,220	385	175	162	175	144	47	17	12	9.4
13	10	35	1,350	390	162	162	195	133	44	17	12	9.4
14	10	900	1,170	375	172	191	278	122	44	17	12	9.0
15	8.8	1,800	754	295	209	420	303	112	41	17	11	8.1
16	7.7	1,500	524	248	286	1,230	364	110	39	16	11	8.1
17	7.7	500	420	212	583	1,100	450	108	36	16	11	7.6
18	7.7	250	340	187	654	950	450	101	36	16	10	9.0
19	7.7	400	290	240	475	702	416	90	35	15	9.8	9.8
20	9.1	700	248	1,490	350	756	368	83	34	15	9.8	9.0
21	29	1,500	216	1,250	291	660	333	78	33	17	9.4	8.1
22	77	800	187	741	254	539	350	74	32	17	9.4	8.1
23	63	500	178	535	235	702	328	70	32	17	9.0	7.6
24	36	400	163	450	220	744	311	67	32	17	9.0	7.6
25	26	250	160	670	195	561	295	65	32	18	9.0	7.6
26	18	300	160	1,560	172	445	282	64	29	17	9.0	7.6
27	17	300	151	2,030	159	364	278	64	26	17	9.0	7.6
28	15	300	140	3,720	150	320	250	64	25	17	8.5	7.6
29	14	450	140	2,700		303	235	64	24	15	8.1	7.6
30	13	350	140	1,590	- - - - -	320	213	64	24	15	8.1	8.1
31	13	- - - - -	135	1,210	- - - - -	337	- - - - -	69	- - - - -	14	8.1	- - - - -
Total	489.5	11,395.4	23,787	22,337	9,140	12,576	8,674	3,696	1,291	559	329.2	246.4
Mean	15.8	380	767	721	326	406	289	119	43.0	18.0	10.6	8.21
Max	77	1,800	3,200	3,720	892	1,230	450	198	85	24	13	9.8
Min	7.0	9.4	135	135	150	115	175	64	24	14	8.1	7.6
Cfsm	0.182	4.37	8.83	8.30	3.75	4.67	3.33	1.37	0.495	0.207	0.122	0.094
In.	0.21	4.88	10.18	9.56	3.92	5.38	3.71	1.58	0.55	0.24	0.14	0.11
Ac-ft	971	22,600	47,180	44,300	18,130	24,940	17,200	7,330	2,560	1,110	653	489

Cal yr 1966: Total	119,507.1	Mean	328	Max	8,460	Min	7.0	Cfsm	3.77	In. 51.17	Ac-ft	237,200
Wtr yr 1967: Total	94,520.5	Mean	259	Max	3,720	Min	7.0	Cfsm	2.98	In. 40.45	Ac-ft	186,100

Peak discharge (base, 2,500 cfs).--Dec. 4 (2400 hrs) 7,340 cfs (12.52 ft); Jan. 28 (0500 hrs) 5,520 cfs (11.05 ft).

Note.--No gage-height record Nov. 6 to Dec. 5.

14-3100. Cow Creek near Riddle, Oreg.

Location.--Lat 42°55'25", long 123°25'40", in NE¼ sec.32, T.30 S., R.6 W., on left bank 0.4 mile upstream from Council Creek, 3.8 miles southwest of Riddle, and at mile 6.7.

Drainage area.--456 sq mi.

Records available.--September 1954 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 682.60 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Apr. 27, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 920 cfs (666,100 acre-ft per year).

Extremes.--Maximum discharge during year, 17,200 cfs Jan. 28 (gage height, 16.39 ft); minimum, 20 cfs Aug. 25, 26, Aug. 29 to Sept. 1, Sept. 3, 4, 9, 10.

1954-67: Maximum discharge, 37,500 cfs Dec. 22, 1964 (gage height, 27.67 ft); minimum, 18 cfs Aug. 22, 1966.

Maximum discharge known, 41,100 cfs Oct. 29, 1950 (gage height, about 28.5 ft, present site and datum), from slope-area measurement.

Remarks.--Records excellent. No regulation. Many small diversions for irrigation above station. Records of chemical analyses for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	48	67	1,990	488	3,340	600	1,060	577	269	86	43	21
2	47	65	6,060	510	2,480	623	976	554	279	84	42	22
3	45	63	3,990	488	1,980	600	940	546	254	80	41	21
4	45	60	7,490	503	1,660	554	931	539	227	77	39	21
5	43	59	10,400	680	1,440	517	877	525	209	69	36	23
6	42	67	5,450	672	1,260	481	824	503	197	65	36	23
7	43	76	4,490	780	1,130	455	798	481	190	65	38	22
8	43	78	4,970	789	1,030	434	747	475	186	66	39	22
9	45	76	3,250	772	922	434	688	495	178	66	37	21
10	45	79	4,430	815	833	631	655	608	170	64	35	21
11	45	128	4,010	1,050	772	713	672	577	167	64	35	23
12	47	170	3,820	1,230	713	721	608	546	167	62	33	26
13	62	182	3,720	1,190	747	721	600	510	163	60	31	29
14	68	2,490	3,760	1,090	815	721	738	468	153	59	31	29
15	62	5,770	2,570	931	868	1,100	764	434	143	57	29	28
16	59	6,050	1,880	824	1,050	3,650	798	415	136	56	29	25
17	57	1,910	1,480	730	1,450	3,790	1,090	403	133	55	28	26
18	57	1,000	1,220	664	1,980	2,860	1,190	378	127	53	26	29
19	55	2,150	1,030	664	1,680	2,150	1,130	354	122	53	26	32
20	60	3,290	922	4,400	1,360	2,200	1,020	332	114	53	26	32
21	121	4,510	842	3,800	1,140	2,230	913	310	107	53	25	32
22	148	2,990	747	2,800	994	1,890	886	294	107	53	24	32
23	220	1,890	680	2,000	904	2,450	842	279	113	53	24	30
24	149	1,360	623	1,600	842	2,820	806	269	111	51	23	30
25	114	1,050	600	2,000	781	2,150	789	254	108	50	21	29
26	95	1,110	623	5,500	705	1,700	772	245	103	51	22	29
27	84	1,170	569	7,050	631	1,370	764	232	97	50	25	32
28	78	1,190	525	13,500	592	1,200	713	227	96	48	23	27
29	74	1,530	503	10,300	------	1,120	664	236	94	46	21	27
30	71	1,270	510	6,250	------	1,090	623	236	90	45	21	28
31	68	------	488	4,560	------	1,130	------	254	------	43	21	------
TOTAL	2,240	41,900	83,642	78,630	34,099	43,105	24,878	12,556	4,610	1,837	930	792
MEAN	72.3	1,397	2,698	2,536	1,218	1,390	829	405	154	59.3	30.0	26.4
MAX	220	6,050	10,400	13,500	3,340	3,790	1,190	608	279	86	43	32
MIN	42	59	488	488	592	434	600	227	90	43	21	21
AC-FT	4,440	83,110	165,900	156,000	67,630	85,500	49,340	24,900	9,140	3,640	1,840	1,570

CAL YR 1966: TOTAL 420,370 MEAN 1,152 MAX 24,500 MIN 19 AC-FT 833,800
WAT YR 1967: TOTAL 329,219 MEAN 902 MAX 13,500 MIN 21 AC-FT 653,000

Peak discharge (base, 10,000 cfs).--Dec. 5 (0230 hrs) 12,900 cfs (13.60 ft); Jan. 28 (0830 hrs) 17,200 cfs (16.39 ft).

14-3107. South Myrtle Creek near Myrtle Creek, Oreg.

Location.--Lat 43°01'55", long 123°11'30", in SE¼ sec.20, T.29 S., R.4 W., on left bank 0.6 mile downstream from School Hollow, 5.5 miles east of town of Myrtle Creek, and at mile 7.3.

Drainage area.--43.9 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Staff gage read once or twice daily and crest-stage gages. Datum of gage is 775.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--12 years, 67.2 cfs (48,650 acre-ft per year).

Extremes.--Maximum discharge during year, 1,090 cfs Dec. 5 (gage height, 4.36 ft, from floodmark); minimum observed, 0.62 cfs Aug. 17. 1955-67: Maximum discharge, 3,050 cfs Dec. 11, 1956 (gage height, 7.72 ft), from rating curve extended above 1,100 cfs by logarithmic plotting; minimum observed, 0.20 cfs Aug. 2, 1961.

Remarks.--Records good. No regulation. Several diversions for irrigation of about 600 acres above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	6.0	124	47	232	72	54	53	24	5.0	1.9	2.1
2	4.1	6.0	122	47	172	71	53	47	24	4.7	1.7	2.1
3	4.6	5.8	96	47	140	64	54	47	20	3.9	1.3	1.4
4	4.4	5.8	487	50	117	58	48	47	18	4.1	.91	1.8
5	3.9	5.8	682	71	96	53	51	45	18	5.2	1.4	1.6
6	3.9	13	292	72	86	47	48	45	15	4.9	1.6	2.1
7	4.1	13	274	86	75	43	46	43	15	4.7	2.2	1.9
8	4.2	9.0	338	77	72	40	47	43	14	4.1	2.5	1.5
9	4.2	7.6	253	81	64	42	43	47	14	3.0	2.4	1.4
10	4.1	23	250	98	57	83	41	53	13	3.6	2.6	1.8
11	4.1	119	205	126	53	90	39	50	13	2.8	3.4	3.7
12	4.6	50	165	117	48	88	36	54	12	3.2	2.7	4.9
13	6.0	55	185	172	50	81	33	45	12	2.9	1.5	4.4
14	4.9	483	180	145	66	74	36	40	11	2.8	1.8	4.1
15	4.9	645	140	111	96	64	32	37	9.8	2.8	1.7	2.3
16	4.6	505	106	102	111	92	32	35	9.6	2.8	1.0	2.3
17	4.6	165	86	85	415	96	46	33	9.6	3.1	.62	2.1
18	4.4	94	74	72	362	86	64	30	9.6	2.8	.91	5.8
19	4.4	98	66	66	238	83	77	28	9.2	2.6	.76	4.6
20	8.1	100	61	203	170	85	64	25	8.6	2.1	1.2	4.4
21	14	404	53	384	162	79	61	24	9.2	2.1	1.2	4.2
22	27	229	48	268	119	77	57	23	9.8	2.4	.91	3.6
23	29	119	42	178	106	106	54	20	11	2.3	1.3	3.6
24	16	85	39	138	96	85	50	19	9.2	2.9	.81	3.0
25	11	69	37	109	104	72	57	20	9.0	2.5	1.4	2.2
26	9.0	92	42	244	90	64	63	18	8.1	2.7	1.4	2.1
27	7.8	81	40	308	77	60	63	18	7.8	3.0	2.0	2.0
28	6.8	79	39	622	69	55	61	18	7.6	2.7	1.6	1.8
29	6.6	109	37	352	- - - - -	54	55	19	7.6	2.4	1.4	2.1
30	6.2	88	42	286	- - - - -	58	55	22	6.6	2.5	1.0	3.0
31	6.0	- - - - -	39	304	- - - - -	55	- - - - -	30	- - - - -	2.3	2.1	- - - - -
Total	231.7	3,764	4,644	5,068	3,543	2,177	1,520	1,078	365.3	98.9	49.22	83.9
Mean	7.47	125	150	163	127	70.2	50.7	34.8	12.2	3.19	1.59	2.80
Max	29	645	682	622	415	106	77	54	24	5.2	3.4	5.8
Min	3.9	5.8	37	47	48	40	32	18	6.6	2.1	0.62	1.4
Ac-ft	460	7,470	9,210	10,050	7,030	4,320	3,010	2,140	725	196	97.6	166

Cal yr 1966: Total 22,834.42 Mean 62.6 Max 1,160 Min 0.38 Ac-ft 45,290
Wtr yr 1967: Total 22,623.02 Mean 62.0 Max 682 Min 0.62 Ac-ft 44,870

Peak discharge (base, 1,000 cfs).--Dec. 5 (0200 hrs) 1,090 cfs (4.36 ft).

14-3110. North Myrtle Creek near Myrtle Creek, Oreg.

Location.--Lat 43°02'30", long 123°15'30", in SW¼ sec.14, T.29 S., R.5 W., on right bank 0.1 mile downstream from Bilger Creek, 1.5 miles northeast of town of Myrtle Creek, and at mile 2.1.

Drainage area.--54.2 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 660 ft (from topographic map). Prior to Apr. 28, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--12 years, 76.6 cfs (55,460 acre-ft per year).

Extremes.--Maximum discharge during year, 1,190 cfs Dec. 5 (gage height, 6.13 ft); minimum, 0.98 cfs Aug. 21-23.

1955-67: Maximum discharge, 3,260 cfs Jan. 20, 1964 (gage height, 10.51 ft), from rating curve extended above 1,800 cfs by logarithmic plotting; maximum gage height, 11.58 ft Dec. 26, 1955 (backwater from debris); minimum discharge, 0.40 cfs Aug. 8, 1959, Aug. 23, 1961.

Remarks.--Records good. No regulation. Several diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.9	8.2	118	51	336	75	85	53	23	6.2	3.1	1.5
2	5.2	8.3	164	49	256	70	77	51	21	5.9	2.2	1.6
3	5.3	8.2	158	50	201	66	71	49	15	5.1	1.9	2.1
4	4.9	8.0	551	69	162	61	65	46	16	5.3	2.0	2.2
5	4.8	8.4	916	105	133	57	64	44	16	4.7	1.8	1.9
6	4.4	13	461	116	114	53	60	39	16	4.4	2.1	2.1
7	4.8	14	397	128	100	50	55	36	15	4.8	2.9	2.3
8	4.9	11	471	128	89	48	50	34	15	4.8	2.3	2.4
9	4.9	9.9	358	123	80	50	47	42	14	4.9	2.0	2.6
10	5.1	23	316	129	72	92	45	43	14	4.8	2.9	2.8
11	5.4	72	247	151	66	102	45	37	14	4.3	2.6	4.5
12	6.4	40	193	144	61	110	41	40	13	3.9	2.4	5.1
13	7.9	27	207	147	79	112	41	34	13	3.2	2.3	4.0
14	7.0	262	204	132	90	102	43	32	12	3.4	2.2	3.4
15	7.0	500	174	118	124	97	40	30	11	3.8	1.9	3.1
16	7.6	525	143	101	177	105	42	28	11	3.8	1.7	3.0
17	6.4	179	117	88	360	97	58	27	10	3.5	1.6	3.6
18	6.4	101	98	80	417	94	73	25	9.9	2.8	1.3	6.4
19	6.2	97	84	77	300	93	81	23	9.4	2.7	1.6	5.8
20	8.5	105	80	211	221	92	76	22	9.3	2.4	1.5	4.8
21	13	228	70	485	172	86	69	21	11	2.9	1.2	4.4
22	24	243	62	411	142	82	63	19	11	3.0	1.1	4.2
23	23	157	57	284	122	101	58	19	11	2.6	1.2	3.9
24	14	113	52	202	109	95	57	19	9.9	2.7	1.4	4.2
25	11	89	60	152	111	92	64	18	8.6	2.9	1.5	3.8
26	9.5	91	61	286	94	86	65	18	8.3	3.5	1.5	3.5
27	8.8	79	57	328	83	77	66	17	7.6	3.6	2.0	3.3
28	8.4	86	53	756	76	77	61	19	7.2	3.6	1.9	3.4
29	8.3	93	53	554	------	82	61	20	6.9	3.0	1.5	3.4
30	8.1	85	53	408	------	87	59	21	6.6	3.0	1.9	5.6
31	8.0	------	48	416	------	91	------	28	------	3.1	1.6	------
TOTAL	254.1	3,284.0	6,083	6,479	4,347	2,582	1,782	954	365.7	118.6	59.1	104.9
MEAN	8.20	109	196	209	155	83.3	59.4	30.8	12.2	3.83	1.91	3.50
MAX	24	525	916	756	417	112	85	53	23	6.2	3.1	6.4
MIN	4.4	8.0	48	49	61	48	40	17	6.6	2.4	1.1	1.5
AC-FT	504	6,510	12,070	12,850	8,620	5,120	3,530	1,890	725	235	117	208

CAL YR 1966: TOTAL 26,992.50 MEAN 74.0 MAX 1,640 MIN .90 AC-FT 53,540
WAT YR 1967: TOTAL 26,413.4 MEAN 72.4 MAX 916 MIN 1.1 AC-FT 52,390

Peak discharge (base, 1,100 cfs).--Dec. 5 (0230 hrs) 1,190 cfs (6.13 ft).

14-3112. Olalla Creek near Tenmile, Oreg.

Location.--Lat 43°02'20", long 123°32'35", in NW¼ sec.21, T.29 S., R.7 W., on left bank 0.5 mile downstream from Berry Creek, 4.4 miles south of Tenmile, and at mile 11.7.

Drainage area.--60.5 sq mi.

Records available.--October 1956 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 749.53 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to June 21, 1957, wire-weight gage at site 0.3 mile downstream at datum 7.83 ft lower.

Average discharge.--11 years, 104 cfs (75,290 acre-ft per year).

Extremes.--Maximum discharge during year, 2,300 cfs Dec. 4 (gage height, 6.86 ft); no flow Aug. 18, 20, 22, Sept. 1-30.

1956-67: Maximum discharge, 9,160 cfs Jan. 3, 1966 (gage height, 11.98 ft, from floodmark); no flow at times.

Maximum stage known since at least 1920, 13.6 ft Dec. 26, 1955, from floodmarks, present site and datum (discharge, 12,300 cfs), from rating curve extended above 6,000 cfs by logarithmic plotting.

Remarks.--Records good. Some diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.54	1.5	162	22	507	46	114	53	17	1.7	0.29	
2	.54	1.5	516	21	330	50	100	51	17	1.5	.34	
3	.54	1.5	429	20	235	50	87	48	14	1.4	.40	
4	.47	1.4	1,300	27	174	48	78	46	12	1.1	.34	
5	.47	1.4	1,460	55	131	46	71	43	11	.98	.34	
6	.47	2.8	712	71	106	42	62	38	10	.88	.17	
7	.47	4.8	816	112	92	40	57	35	9.5	.98	.11	
8	.47	4.1	736	104	79	39	51	33	9.5	.98	.14	
9	.54	3.0	489	88	67	39	46	36	9.5	.98	.20	
10	.54	3.5	489	96	59	81	44	37	8.8	1.1	.17	
11	.54	12	393	100	56	118	44	35	8.1	1.2	.29	
12	.78	12	305	90	50	114	42	33	7.5	1.1	.47	
13	.98	15	322	79	68	110	44	28	7.5	.98	.54	
14	1.1	293	352	72	86	110	54	27	6.5	.88	.54	
15	1.1	775	265	64	120	139	64	25	5.6	.78	.47	
16	1.1	752	180	54	163	318	82	23	5.2	.70	.40	
17	1.1	254	125	46	186	312	158	22	4.8	.62	.02	
18	.88	109	88	43	197	248	184	21	4.4	.54	0	
19	.88	435	70	48	165	199	160	19	4.1	.47	.01	
20	1.9	462	61	531	127	176	124	18	3.8	.47	0	
21	4.4	644	54	804	103	148	99	18	3.8	.47	.20	
22	10	465	47	516	87	133	88	17	3.8	.40	0	
23	12	238	42	328	76	211	81	16	4.1	.47	.07	
24	4.4	148	36	231	68	268	73	15	4.1	.54	.07	
25	2.8	102	34	201	60	221	68	14	3.8	.47	.07	
26	2.5	113	32	696	52	169	62	14	3.2	.47	.11	
27	1.9	103	28	684	47	130	58	13	3.0	.40	.11	
28	1.7	96	25	1,460	44	107	55	14	2.3	.40	.05	
29	1.5	103	24	1,020	- - - - -	104	54	14	2.1	.40	.05	
30	1.5	91	24	700	- - - - -	118	56	15	1.9	.34	.07	
31	1.5	- - - - -	22	716	- - - - -	124	- - - - -	17	- - - - -	.34	.03	- - - - -
Total	59.61	5,247.5	9,638	9,099	3,535	4,058	2,360	838	207.9	24.04	6.07	0
Mean	1.92	175	311	294	126	131	78.7	27.0	6.93	0.78	0.20	0
Max	12	775	1,460	1,460	507	318	184	53	17	1.7	.54	0
Min	.47	1.4	22	20	44	39	42	13	1.9	.34	0	0
Ac-ft	118	10,410	19,120	18,050	7,010	8,050	4,680	1,660	412	48	12	0

Cal yr 1966: Total 45,736.05 Mean 125 Max 4,980 Min 0 Ac-ft 90,720
Wtr yr 1967: Total 35,073.12 Mean 96.1 Max 1,460 Min 0 Ac-ft 69,570

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2400	5.38	1,340				
12- 4	1600	6.86	2,300				
1-28	0600	6.29	1,950				

14-3115. Lookingglass Creek at Brockway, Oreg.

Location.--Lat 43°07'05", long 123°26'15", in SW¼ sec.20, T.28 S., R.6 W., on right bank 0.4 mile northeast of Brockway and at mile 0.5.

Drainage area.--158 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 493.19 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--12 years, 310 cfs (224,400 acre-ft per year).

Extremes.--Maximum discharge during year, 6,550 cfs Jan. 28 (gage height, 14.18 ft); no flow many days.

1955-67: Maximum discharge, 35,000 cfs Dec. 26, 1955 (gage height, 24.93 ft), from rating curve extended above 7,200 cfs on basis of slope-area measurement of peak flow; maximum gage height, 25.28 ft Dec. 23, 1964 (backwater from South Umpqua River); no flow at times each year.

Remarks.--Records good. Many diversions by pumping for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	3.0	321	110	1,150	158	260	128	29	.76		
2	0	2.8	929	107	793	158	222	120	28	.76		
3	0	2.8	856	108	575	155	199	113	27	.80		
4	0	2.8	2,730	128	438	142	180	104	24	.56		
5	0	2.8	4,510	334	355	135	164	100	22	.26		
6	.01	3.4	1,950	370	296	113	146	89	19	.18		
7	.01	3.4	2,170	415	256	106	143	77	18	.14		
8	.01	6.7	2,080	365	226	100	122	72	18	.14		
9	.01	9.0	1,280	310	199	102	113	79	16	.11		
10	.03	10	1,240	290	178	221	104	92	15	.09		
11	.03	17	1,020	306	164	294	103	79	15	.07		
12	.03	31	800	280	152	272	96	74	15	.05		
13	.01	31	797	284	194	258	95	64	14	.05		
14	0	416	936	274	264	226	114	59	13	.05		
15	0	1,350	702	242	453	240	128	57	10	.03		
16	0	1,780	508	217	572	387	144	53	9.0	.03		
17	0	507	382	196	533	462	302	49	7.4	.01		
18	0	262	300	185	515	405	332	45	5.5	0		
19	.03	939	252	187	432	352	300	42	3.8	0		
20	.05	970	236	1,360	342	320	248	39	3.7	0		
21	.03	1,110	207	2,250	288	280	212	35	3.2	0		
22	.11	917	185	1,290	242	250	188	34	3.2	0		
23	19	498	166	835	226	376	183	33	3.6	0		
24	22	316	152	620	209	521	166	29	3.6	0		
25	15	236	146	542	191	442	149	28	3.2	0		
26	10	220	141	1,970	170	355	143	28	2.4	0		
27	7.0	201	125	1,850	153	288	142	26	1.6	0		
28	5.8	198	117	4,830	141	250	129	27	1.3	0		
29	4.3	207	112	2,740		260	131	27	1.0	0		
30	3.8	190	110	1,680	- - - - -	288	139	27	.90	0		
31	3.2	- - - - -	101	1,570	- - - - -	290	- - - - -	28	- - - - -	0		- - - - -
Total	90.46	10,442.7	25,561	26,245	9,707	8,206	5,097	1,857	336.40	4.09	0	0
Mean	2.92	348	825	847	347	265	170	59.9	11.2	0.13	0	0
Max	22	1,780	4,510	4,830	1,150	521	332	128	29	.80	0	0
Min	0	2.8	101	107	141	100	95	26	.90	0	0	0
Ac-ft	179	20,710	50,700	52,060	19,250	16,280	10,110	3,680	667	8.1	0	0

Cal yr 1966: Total 119,786.59 Mean 328 Max 12,200 Min 0 Ac-ft 237,600
Wtr yr 1967: Total 87,546.65 Mean 240 Max 4,830 Min 0 Ac-ft 173,600

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	1400	10.40	3,040				
12- 5	0300	13.57	5,780				
1-28	0830	14.18	6,550				

14-3120. South Umpqua River near Brockway, Oreg.

Location.--Lat 43°08'00", long 123°23'50", in SW¼ sec.15, T.28 S., R.6 W., on right bank 40 ft downstream from Winston Bridge on U.S. Highway 99, 2.5 miles northeast of Brockway, 4.2 miles downstream from Lookingglass Creek, and at mile 132.8.

Drainage area.--1,670 sq mi.

Records available.--December 1905 to June 1912, October 1923 to September 1926, January 1942 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 461.84 ft above mean sea level, datum of 1929 (State Highway Department bench mark). Prior to June 24, 1949, staff, chain, and wire-weight gages at several sites within 400 ft of present site at various datums. June 24, 1949, to Aug. 12, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--33 years (1906-11, 1923-26, 1942-67, 2,890 cfs (2,092,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,700 cfs Jan. 28 (gage height, 18.93 ft); minimum, 43 cfs Sept. 2.

1905-12, 1923-26, 1942-67: Maximum discharge, 105,000 cfs Dec. 23, 1964 (gage height, 34.28 ft); minimum observed, 36 cfs Aug. 12, 13, 1926 (corrected).

Flood of Feb. 21, 1927, reached a stage of about 31.2 ft, present site and datum (discharge, 89,500 cfs, revised). Discharge for flood of February 1890, which reached a stage 1.9 ft higher according to local resident who lived nearby at time of both floods, has been found to be in error and should not be used.

Remarks.--Records excellent. No regulation. Many small diversions for irrigation above station. Records of chemical analysis for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	130	196	4,900	1,790	11,900	2,790	3,220	2,410	1,380	329	103	48
2	126	188	9,980	1,960	8,910	3,410	2,980	2,260	1,330	309	97	45
3	120	183	9,980	1,920	6,900	3,160	2,860	2,180	1,260	289	93	44
4	117	177	15,300	2,060	5,690	2,810	2,940	2,210	1,140	269	91	49
5	114	173	30,100	2,920	4,970	2,530	3,000	2,270	1,100	253	90	51
6	112	178	17,500	2,940	4,370	2,300	2,920	2,240	1,080	233	90	47
7	110	254	13,500	3,060	3,860	2,110	2,860	2,290	1,030	222	87	48
8	111	329	15,000	2,980	3,490	1,980	2,710	2,590	970	208	85	48
9	109	271	10,600	2,830	3,140	1,900	2,530	3,010	924	214	87	51
10	110	263	11,500	3,100	2,860	2,630	2,350	4,230	887	208	88	53
11	112	1,210	12,000	3,950	2,620	3,280	2,290	3,590	851	197	86	60
12	116	2,700	11,300	4,530	2,430	3,220	2,130	3,130	813	191	83	67
13	127	1,700	10,800	5,550	2,470	3,180	1,990	2,750	791	180	82	70
14	143	5,470	12,900	5,970	2,920	3,010	2,150	2,450	754	168	81	73
15	176	18,200	9,020	4,800	3,100	3,240	2,150	2,320	714	164	72	84
16	168	23,700	6,610	4,120	3,810	6,610	2,080	2,450	683	161	66	75
17	153	9,230	5,270	3,510	6,590	10,600	2,640	2,740	667	157	61	71
18	141	4,670	4,360	3,050	10,600	7,760	3,020	2,810	652	150	60	78
19	139	4,560	3,690	2,790	8,160	6,210	3,190	2,630	627	143	56	90
20	147	10,300	3,290	9,020	5,920	5,620	2,960	2,450	594	136	56	105
21	170	14,600	3,010	18,100	4,800	6,100	2,700	2,400	600	136	57	107
22	354	11,600	2,640	12,200	4,160	5,500	2,530	2,360	558	139	54	93
23	1,090	6,860	2,390	8,230	3,820	6,250	2,510	2,250	534	139	51	88
24	903	4,770	2,190	6,210	3,630	7,370	2,480	2,020	511	137	50	86
25	550	3,620	2,070	5,670	3,580	5,920	2,440	1,760	473	131	52	81
26	389	3,530	2,240	10,900	3,400	4,870	2,690	1,550	433	126	54	77
27	312	3,670	2,070	18,400	3,020	4,070	2,820	1,410	403	123	55	73
28	270	3,470	1,890	32,700	2,750	3,530	2,760	1,340	377	124	58	72
29	243	4,860	1,770	28,000	------	3,400	2,610	1,410	360	119	57	72
30	226	4,520	1,830	19,400	------	3,300	2,590	1,400	345	116	50	74
31	209	------	1,840	15,500	------	3,350	------	1,440	------	111	49	------
TOTAL	7,297	145,452	241,540	248,160	133,870	132,010	79,100	72,350	22,841	5,582	2,201	2,080
MEAN	235	4,848	7,792	8,005	4,781	4,258	2,637	2,334	761	180	71.0	69.3
MAX	1,090	23,700	30,100	32,700	11,900	10,600	3,220	4,230	1,380	329	103	107
MIN	109	173	1,770	1,790	2,430	1,900	1,990	1,340	345	111	49	44
CFSM	.14	2.90	4.67	4.79	2.86	2.55	1.58	1.40	.46	.11	.04	.04
IN.	.16	3.24	5.38	5.53	2.98	2.94	1.76	1.61	.51	.12	.05	.05
AC-FT	14,470	288,500	479,100	492,200	265,500	261,800	156,900	143,500	45,300	11,070	4,370	4,130

CAL YR 1966: TOTAL 1,228,025 MEAN 3,364 MAX 56,900 MIN 55 CFSM 2.01 IN 27.35 AC-FT 2,436,000
WAT YR 1967: TOTAL 1,092,483 MEAN 2,993 MAX 32,700 MIN 44 CFSM 1.79 IN 24.33 AC-FT 2,167,000

Peak discharge (base, 18,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0700	15.97	28,900	1-21	0330	13.55	20,400
12- 5	0600	18.83	38,400	1-28	1400	18.93	38,700

14-3122. Deer Creek near Roseburg, Oreg.

Location.--Lat 43°13'05", long 123°17'15", in SE¼ sec.16, T.27 S., R.5 W., on left bank 200 ft upstream from Shick Creek, 2.8 miles east of Roseburg, and at mile 3.5.

Drainage area.--54.3 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Staff gage read once or twice daily and crest-stage gage. Datum of gage is 486.1 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--12 years, 81.5 cfs (59,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,930 cfs Dec. 4 (gage height, 10.92 ft, from floodmark); no flow Aug. 4, 5, 19-24.

1955-67: Maximum discharge, 7,910 cfs Dec. 28, 1965 (gage height, 14.76 ft, from floodmark), from rating curve extended above 2,200 cfs on basis of slope-area measurements at gage heights 13.38 and 13.67 ft; no flow July 17, 1959, Aug. 11, 1965, and Aug. 18, 24, 1966, Aug. 4, 5, 19-24, 1967.

Flood of Oct. 29, 1950, reached a stage of 13.38 ft, from floodmarks (discharge, 6,460 cfs, from rating curve extended above 2,200 cfs as explained above).

Remarks.--Records good. No regulation. Many small diversions by pumping for irrigation above station; diversions above station for logponds.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	3.0	176	61	272	75	69	38	12	2.2	0.51	0.38
2	2.1	3.0	261	56	192	69	66	34	10	1.7	.11	.26
3	1.6	3.0	176	56	147	66	54	34	10	2.7	.01	.38
4	1.4	3.0	1,550	59	113	56	54	30	7.6	2.4	0	.38
5	.98	2.7	1,450	150	89	54	44	30	6.0	.17	0	.51
6	1.2	4.0	439	154	80	49	44	32	5.4	1.5	.65	.38
7	1.6	8.5	511	150	72	44	40	20	5.4	2.0	.51	.38
8	1.6	9.6	511	113	66	44	40	25	6.7	2.2	.51	.38
9	1.6	3.0	355	95	64	44	36	30	5.4	1.5	.38	.38
10	1.6	11	308	89	61	157	36	38	5.4	1.3	.38	.38
11	.98	99	219	98	54	113	34	29	5.4	.38	.38	1.3
12	1.6	24	192	80	44	95	34	38	5.0	2.0	.38	.58
13	3.0	30	166	86	104	101	34	30	4.5	1.5	.38	.51
14	2.7	260	202	80	113	83	34	25	4.2	2.2	.38	.38
15	2.7	690	154	72	199	77	34	20	4.5	1.2	.38	.97
16	2.1	537	122	80	176	98	38	17	3.8	1.2	.11	.97
17	1.6	160	98	77	250	77	51	17	3.5	1.3	.07	.65
18	2.1	44	86	72	236	89	56	17	3.8	1.2	.03	1.7
19	2.1	279	66	69	160	80	54	16	3.5	.65	0	1.5
20	3.0	176	83	347	122	77	46	13	3.5	1.2	0	1.5
21	11	439	64	715	98	80	44	10	3.5	1.2	0	1.5
22	8.5	261	83	417	83	75	40	10	3.2	1.5	0	1.5
23	6.5	83	77	236	75	144	54	10	2.9	1.2	0	1.3
24	5.5	83	72	116	69	138	51	10	3.8	1.2	0	1.3
25	3.4	69	83	128	98	113	54	10	3.5	.97	.38	.97
26	2.7	69	77	439	72	98	56	10	3.8	1.5	.51	.81
27	3.0	56	75	355	69	77	44	8.7	3.5	1.3	.38	.97
28	2.7	51	69	750	61	69	42	10	3.8	.97	.65	.97
29	2.7	83	69	462		80	51	17	2.9	.81	.38	.97
30	2.4	61	66	316	- - - - -	83	44	10	2.4	.38	.38	2.2
31	2.7	- - - - -	64	375	- - - - -	75	- - - - -	17	- - - - -	.38	.26	- - - - -
Total	88.26	3,604.8	7,924	6,353	3,239	2,580	1,378	655.7	148.9	41.91	8.11	26.36
Mean	2.85	120	256	205	116	83.2	45.9	21.2	4.96	1.35	0.26	0.88
Max	11	690	1,550	750	272	157	69	38	12	2.7	.65	2.2
Min	.98	2.7	64	56	44	44	34	8.7	2.4	.17	0	.26
Ac-ft	175	7,150	15,720	12,600	6,420	5,110	2,730	1,300	295	83	16	52

Cal yr 1966: Total 28,570.26 Mean 78.3 Max 3,190 Min 0 Ac-ft 56,670
Wtr yr 1967: Total 26,048.04 Mean 71.4 Max 1,550 Min 0 Ac-ft 51,670

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2400	7.31	1,360				
12- 4	1500	10.92	3,930				
1-28	0600	7.55	1,480				

14-3130. Lemolo Lake near Toketee Falls, Oreg.

Location.--Lat 43°19'10", long 122°11'20", in SE¼NW¼ sec.11, T.26 S., R.5 E., at Lemolo No. 1 diversion dam on North Umpqua River, 0.8 mile downstream from Lake Creek, 13 miles east of town of Toketee Falls, and at mile 93.01.

Drainage area.--170 sq mi.

Records available.--July 1954 to September 1967. Prior to October 1960 published as Lemolo Reservoir near Toketee Falls.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Pacific Power & Light Co.).

Extremes.--Maximum contents observed during year, 13,780 acre-ft June 21, 22, July 4, 17 (elevation, 4,149.0 ft); minimum observed, 1,180 acre-ft Feb. 24, Apr. 8 (elevation, 4098.8 ft).

1954-67: Maximum contents observed, 14,000 acre-ft Dec. 24, 1964 (elevation, 4,149.5 ft); minimum observed, 11 acre-ft Mar. 5, 1955 (elevation, 4,055.4 ft).

Remarks.--Lake is formed by Lemolo No. 1 diversion dam. Storage began July 15, 1954. Usable capacity for normal operation, 12,520 acre-ft between elevations 4,097.0 and 4,148.5 ft. Dead storage below 4,097.0 ft, 1,040 acre-ft. Water is used for power generation. Figures given herein represent total contents.

Cooperation.--Gage readings furnished by Pacific Power & Light Co.

Month-end elevation and contents, water year October 1966 to September 1967

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	4,148.2	13,440	-
Oct. 31	4,136.7	9,110	-4,330
Nov. 30	4,120.2	4,310	-4,800
Dec. 31	4,129.1	6,720	+2,410
Calendar year 1966	-	-	+460
Jan. 31	4,117.3	3,640	-3,080
Feb. 28	4,104.6	1,730	-1,910
Mar. 31	4,100.8	1,360	-370
Apr. 30	4,115.9	3,350	+1,990
May 31	4,143.0	11,350	+8,000
June 30	4,148.6	13,610	+2,260
July 31	4,148.4	13,520	-90
Aug. 31	4,148.2	13,440	-80
Sept. 30	4,148.2	13,440	0
Water year 1966-67	-	-	0

† Elevation at 0900 hrs.

14-3135. North Umpqua River below Lemolo Lake, near Toketee Falls, Oreg.

Location.--Lat 43°19'20", long 122°11'40", in NW¼NW¼ sec.11, T.26 S., R.5 E., on right bank 0.4 mile downstream from Lemolo Lake, 13 miles east of town of Toketee Falls, and at mile 92.6.

Drainage area.--170 sq mi.

Records available.--October 1927 to December 1945, March 1946 to September 1967. Published as "below Lake Creek" prior to October 1952, as "below Lake Creek, near Toketee Falls" October 1952 to September 1953, and as "below Lemolo Reservoir near Toketee Falls" October 1953 to September 1960.

Gage.--Digital water-stage recorder. Altitude of gage is 4,025 ft (from river-profile map). Prior to July 15, 1954, graphic water-stage recorder at site 1 mile upstream at datum about 65 ft higher. July 15, 1954, to Sept. 25, 1955, graphic water-stage recorder at site 400 ft upstream at datum 14.11 ft higher. Sept. 26, 1955, to Aug. 28, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--39 years, 417 cfs (301,900 acre-ft per year), adjusted for storage.

Extremes.--Maximum daily discharge during year, 616 cfs June 13; minimum daily, 23 cfs Nov. 24.

1927-67: Maximum discharge, 4,680 cfs Dec. 25, 1964, from river rating curve extended above 450 cfs on basis of slope-area measurement of peak flow; minimum daily, 9.7 cfs May 13, 1955.

Remarks.--Records good. Flow regulated since 1954 by Lemolo Lake (see sta. no. 3130); also slightly regulated by Diamond Lake. All records given herein include flow in Lemolo No. 1 power canal which, beginning July 1955, diverts 0.4 mile above station for power generation with return flow 4.3 miles downstream.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	360	508	492	90	367	433	387	381	506	496	362	332
2	332	512	490	397	373	422	109	493	480	406	371	416
3	334	509	499	395	388	380	406	496	480	470	367	291
4	279	507	430	412	357	301	417	479	474	352	368	294
5	294	507	358	520	347	92	403	474	486	507	367	367
6	365	511	414	515	395	387	395	459	484	430	104	373
7	282	513	417	522	384	362	387	246	544	410	355	216
8	329	324	403	523	428	424	294	349	584	410	369	246
9	328	521	438	524	493	410	82	278	586	308	477	286
10	412	521	428	526	503	400	367	295	585	488	477	258
11	405	521	411	524	501	262	427	335	585	348	479	328
12	307	517	383	514	505	94	412	388	602	381	479	388
13	447	513	211	503	504	397	407	409	616	390	275	389
14	512	495	383	367	504	421	351	422	608	381	327	316
15	513	452	363	94	504	417	25	394	588	330	276	372
16	510	306	369	413	496	376	26	364	528	103	301	279
17	504	509	95	499	403	420	378	339	493	437	292	244
18	508	505	104	496	376	377	485	303	519	374	279	300
19	513	500	391	497	96	99	486	270	538	362	189	299
20	509	452	363	464	410	408	485	258	546	376	24	300
21	507	488	388	350	435	423	344	240	553	373	385	285
22	485	505	392	97	427	416	26	194	552	371	443	281
23	504	473	382	412	424	390	27	186	534	274	443	285
24	507	23	98	525	367	399	393	361	527	356	356	239
25	503	189	97	528	304	401	491	498	510	372	239	299
26	496	519	96	504	93	108	492	502	502	363	293	298
27	502	526	399	440	394	411	489	502	496	368	184	317
28	501	496	386	281	436	423	262	502	435	361	189	301
29	499	504	399	279		420	25	510	494	362	239	283
30	499	506	392	343	- - - - -	411	26	510	486	109	247	259
31	511	- - - - -	394	352	- - - - -	405	- - - - -	506	- - - - -	350	283	- - - - -
Total	13.557	13.932	10.865	12.906	11.214	11.089	9.304	11.943	15.921	11.418	9.839	9.141
Mean	437	464	350	416	400	358	310	385	531	368	317	305
Max	513	526	499	528	505	433	492	510	616	507	479	416
Min	279	23	95	90	93	92	25	186	435	103	24	216
Ac-ft	26,890	27,630	21,550	25,600	22,240	21,990	18,450	23,690	31,580	22,650	19,520	18,130

Adjusted for change in contents of Lemolo Lake

Mean	367	384	390	366	366	352	344	515	569	367	316	305
Cfsm	2.16	2.26	2.29	2.15	2.15	2.07	2.02	3.03	3.35	2.16	1.86	1.79
In.	2.49	2.52	2.64	2.48	2.24	2.38	2.25	3.50	3.73	2.49	2.14	2.00
Ac-ft	22,560	22,830	23,960	22,520	20,330	21,620	20,440	31,690	33,840	22,560	19,440	18,130

Observed	Adjusted
Cal yr 1966: Totals 144,674 Mean 396 Max 544 Min 23 Ac-ft 287,000	Mean 397 Cfsm 2.34 In. 31.71 Ac-ft 287,500
Wtr yr 1967: Totals 141,129 Mean 387 Max 616 Min 23 Ac-ft 279,900	Mean 387 Cfsm 2.28 In. 30.87 Ac-ft 279,900

14-3145. Clearwater River above Trap Creek, near Toketee Falls, Oreg.

Location.--Lat 43°14'40", long 122°17'10", in SW¼ sec.1, T.27 S., R.4 E., on right bank 900 ft downstream from Clearwater No. 1 diversion dam, 0.4 mile upstream from Trap Creek, 8.7 miles east of town of Toketee Falls, and at mile 7.8.

Drainage area.--41.6 sq mi.

Records available.--October 1927 to December 1945, March 1946 to September 1967. Monthly discharge only December 1927 to March 1928, published in WSP 1318. Prior to October 1952, published as "above Trap Creek."

Gage.--Digital water-stage recorder. Datum of gage is 3,862.84 ft above mean sea level (levels by Pacific Power & Light Co.). Prior to Dec. 1, 1953, at two sites about 0.4 mile downstream at different datums. Dec. 1, 1953 to Aug. 29, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--39 years, 169 cfs (122,400 acre-ft per year).

Extremes.--Maximum discharge during year, 318 cfs May 22; minimum daily, 141 cfs Oct. 18, 19.

1927-67: Maximum discharge, 1,020 cfs Dec. 23, 1964; minimum daily, 91 cfs Nov. 4-6, 1931.

Remarks.--Records good. All records given herein include flow in Clearwater No. 1 power canal, completed in June 1953, which diverts 900 ft above station for generation of power and returns water to Clearwater River 2.5 miles below station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	144	144	172	156	175	158	161	145	242	201	159	153
2	144	144	169	156	172	158	162	150	238	198	159	153
3	144	144	164	156	170	156	162	153	233	195	158	153
4	144	144	170	158	168	156	162	154	240	192	158	153
5	144	147	159	156	168	156	163	172	245	188	158	153
6	144	152	162	155	167	156	162	171	245	185	158	153
7	144	147	160	153	167	156	163	176	242	181	157	153
8	144	146	158	154	164	156	164	186	240	180	157	153
9	144	147	157	153	164	157	164	211	238	178	157	153
10	143	156	164	153	164	157	164	211	235	176	156	153
11	144	165	164	153	163	156	164	206	229	176	156	157
12	145	161	176	155	164	155	164	201	226	175	156	154
13	144	159	186	160	164	155	166	198	222	172	156	152
14	144	192	184	157	164	154	165	200	221	172	155	151
15	144	222	176	156	164	154	164	209	222	170	155	151
16	142	199	172	156	162	168	164	226	225	168	155	150
17	142	175	171	154	164	164	165	251	229	168	155	152
18	141	166	170	154	164	162	164	263	232	166	154	152
19	141	174	170	155	161	160	162	274	232	166	154	151
20	148	195	168	159	160	160	162	284	230	164	154	150
21	146	177	167	157	160	160	162	299	223	164	153	149
22	156	168	166	155	159	162	162	308	218	164	153	149
23	155	163	165	154	159	169	162	304	209	164	152	149
24	148	160	164	153	159	166	161	285	208	162	151	148
25	146	159	161	154	158	164	162	271	210	161	151	148
26	144	159	162	158	157	163	162	263	210	161	151	148
27	144	156	160	166	157	163	162	257	205	160	152	148
28	144	160	159	187	158	163	161	262	202	160	151	147
29	144	164	159	194		164	160	270	202	160	151	147
30	144	162	158	186	- - - - -	163	160	257	202	160	152	148
31	144	- - - - -	156	181	- - - - -	162	- - - - -	244	- - - - -	159	152	- - - - -
Total	4,489	4,907	5,149	4,954	4,576	4,953	4,881	7,061	6,755	5,346	4,796	4,531
Mean	145	164	166	160	163	160	163	228	225	172	155	151
Max	156	222	186	194	175	169	166	308	245	201	159	157
Min	141	144	156	153	157	154	160	145	202	159	151	147
Cfsm	3.49	3.94	3.99	3.85	3.92	3.85	3.92	5.48	5.41	4.13	3.73	3.63
In.	4.01	4.39	4.60	4.43	4.09	4.43	4.36	6.31	6.04	4.78	4.29	4.05
Ac-ft	8,900	9,730	10,200	9,830	9,080	9,820	9,680	14,010	13,400	10,600	9,510	8,990

Cal yr 1966:	Total	64,244	Mean	176	Max	279	Min	141	Cfsm	4.23	In.	57.43	Ac-ft	127,400
Wtr yr 1967:	Total	62,398	Mean	171	Max	308	Min	141	Cfsm	4.11	In.	55.78	Ac-ft	123,800

14-3160. Fish Creek at Big Camas ranger station, near Toketee Falls, Oreg.

Location.--Lat 43°13'50", long 122°26'45", in SE¼ sec.10, T.27 S., R.3 E., on right bank 0.2 mile upstream from Camas Creek, 0.7 mile east of Big Camas ranger station, 3.2 miles south of town of Toketee Falls, and at mile 4.7.

Drainage area.--68.8 sq mi.

Records available.--October 1947 to September 1967. Prior to October 1952, published as "at Big Camas ranger station."

Gage.--Digital water-stage recorder. Datum of gage is 2,858.52 ft above mean sea level, datum of 1929 (levels by Pacific Power & Light Co.). Prior to July 10, 1951, graphic water-stage recorder and July 10 to Aug. 10, 1951, staff gage, at site 1,000 ft upstream at datum 13.72 ft higher. Aug. 11 to Nov. 3, 1951, staff gage at site 200 ft downstream at different datum. Nov. 4, 1951, to Sept. 30, 1956, graphic water-stage recorder at present site at datum 1.92 ft higher. Oct. 1, 1956 to Aug. 30, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--20 years, 243 cfs (175,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,040 cfs May 21; minimum daily, 40 cfs Oct. 6.

1947-67: Maximum discharge, 12,100 cfs Dec. 22, 1964; minimum daily, 35 cfs Nov. 27, 1952.

Remarks.--Records good. All records given herein include flow in Fish Creek power canal (diversion began June 18, 1952), which diverts water 2 miles above station for power generation at Fish Creek powerplant; diversion discharged to North Umpqua River 600 ft downstream from Toketee powerplant.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	46	338	141	436	203	186	135	415	190	90	56
2	42	45	306	131	375	207	179	142	410	180	89	56
3	41	44	259	132	336	195	177	154	410	171	86	55
4	41	42	295	138	309	184	179	178	442	163	85	55
5	41	44	291	130	288	178	179	211	461	156	83	54
6	40	64	245	125	269	170	175	246	458	149	82	54
7	41	49	218	120	259	163	177	347	438	144	80	54
8	41	47	193	117	244	161	185	478	422	140	78	53
9	41	48	186	118	239	163	186	720	410	136	78	53
10	41	80	297	121	235	163	188	656	398	133	77	52
11	41	192	320	136	224	156	182	505	374	128	74	61
12	48	179	536	146	218	150	181	418	357	125	74	56
13	49	150	701	162	223	144	185	380	351	121	71	52
14	47	402	584	168	212	140	181	383	355	121	70	51
15	46	736	455	172	202	138	171	447	362	116	69	50
16	45	604	407	179	195	259	164	615	378	116	67	50
17	45	314	369	168	215	271	154	810	387	112	68	51
18	42	223	336	164	248	252	163	788	390	111	67	54
19	42	363	313	173	229	233	154	799	387	110	65	50
20	77	606	295	221	213	247	152	816	377	108	64	49
21	70	424	269	198	206	267	154	898	350	109	63	49
22	126	295	245	178	194	309	139	910	324	106	63	48
23	121	232	225	166	190	414	137	842	287	103	62	47
24	84	197	204	159	186	358	137	676	266	102	63	46
25	69	179	197	150	184	311	143	567	257	99	62	46
26	61	171	182	209	176	281	145	510	244	98	62	46
27	54	156	168	460	172	255	146	494	231	97	60	46
28	54	213	162	893	175	243	143	532	217	98	61	45
29	50	250	155	892		226	139	551	209	93	58	46
30	49	244	148	629	- - - - -	214	135	480	197	92	57	53
31	47	- - - - -	142	530	- - - - -	198	- - - - -	412	- - - - -	90	57	- - - - -
Total	1,679	6,639	9,041	7,426	6,652	6,853	4,916	16,100	10,564	3,817	2,185	1,538
Mean	54.2	221	292	240	238	221	164	519	352	123	70.5	51.3
Max	126	736	701	893	436	414	188	910	461	190	90	61
Min	40	42	142	117	172	138	135	135	197	90	57	45
Cfsm	.788	3.21	4.24	3.49	3.46	3.21	2.38	7.54	5.12	1.79	1.02	.746
In.	.91	3.59	4.89	4.01	3.60	3.70	2.66	8.70	5.71	2.06	1.18	.83
Ac-ft	3,330	13,170	17,930	14,730	13,190	13,590	9,750	31,930	20,950	7,570	4,330	3,050

Cal yr 1966: Total 73,428 Mean 201 Max 994 Min 40 Cfsm 2.92 In. 39.69 Ac-ft 145,600
Wtr yr 1967: Total 77,410 Mean 212 Max 910 Min 40 Cfsm 3.08 In. 41.84 Ac-ft 153,500

Peak discharge (base,900 cfs).--Jan. 29 (0930 hrs) 992 cfs; May 21 (2000 hrs) 1,040 cfs.

14-3165. North Umpqua River above Copeland Creek, near Toketee Falls, Oreg.

Location.--Lat 43°17'45", long 122°32'10", in NW¼ sec.24, T.26 S., R.2 E., on right bank 0.6 mile upstream from Copeland Creek, 4.7 miles west of town of Toketee Falls, and at mile 67.2.

Drainage area.--475 sq mi.

Records available.--September 1949 to September 1967. Monthly discharge only September 1949, published in WSP 1318. Prior to October 1952, published as "above Copeland Creek."

Gage.--Digital water-stage recorder. Altitude of gage is 1,580 ft (from river-profile map). Prior to June 2, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--18 years, 1,547 cfs (1,120,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,140 cfs Jan. 28 (gage height, 8.45 ft); minimum, 554 cfs Sept. 24; minimum daily, 635 cfs July 16.

1949-67: Maximum discharge, 40,700 cfs Dec. 22, 1964 (gage height, 19.1 ft, from floodmark), from rating curve extended above 10,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 565 cfs Sept. 13, 1959.

Remarks.--Records excellent. Considerable fluctuation caused by powerplants upstream; flow slightly regulated by Diamond Lake and by Lemolo Lake (see sta. no. 3130.). No diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	695	920	1,680	998	2,290	1,560	1,230	1,330	1,950	1,320	926	791
2	700	920	1,870	1,070	2,000	1,520	1,070	1,300	1,910	1,020	914	780
3	750	920	1,570	1,180	1,940	1,290	1,290	1,370	1,920	1,270	926	813
4	730	914	1,750	1,210	1,900	1,210	1,360	1,540	1,850	944	879	760
5	710	896	1,740	1,350	1,570	1,070	1,400	1,650	1,990	1,390	735	765
6	675	846	1,590	1,380	1,710	1,240	1,410	1,750	2,100	1,210	775	735
7	750	926	1,520	1,270	1,590	1,230	1,290	1,900	1,970	1,110	956	740
8	760	950	1,300	1,080	1,610	1,180	1,230	2,020	2,090	1,070	1,000	725
9	745	932	1,280	1,270	1,580	1,260	1,100	2,590	1,940	868	956	802
10	755	1,040	1,720	1,350	1,570	1,360	1,220	2,620	1,950	1,120	950	735
11	819	1,650	1,860	1,340	1,520	1,120	1,310	2,240	1,900	1,140	885	846
12	819	1,340	2,440	1,600	1,500	1,020	1,360	2,150	1,810	1,050	885	808
13	920	1,280	2,920	1,740	1,500	1,120	1,430	1,920	1,810	1,000	835	835
14	932	2,140	2,730	1,810	1,750	1,150	1,160	1,910	1,810	1,030	802	824
15	857	3,260	2,290	1,460	1,560	1,140	1,070	2,080	1,810	748	808	824
16	813	2,670	2,070	1,630	1,540	1,300	890	2,440	1,790	635	802	765
17	944	1,960	1,600	1,600	1,560	1,670	1,200	2,810	1,810	1,050	775	740
18	938	1,360	1,580	1,550	1,620	1,630	1,310	2,890	1,770	1,060	765	765
19	932	1,540	1,820	1,640	1,510	1,340	1,380	2,830	1,810	1,040	750	745
20	1,020	2,580	1,810	1,830	1,610	1,490	1,330	2,800	1,810	1,000	725	745
21	1,010	2,080	1,580	1,560	1,600	1,500	1,100	2,950	1,800	956	730	745
22	1,120	1,920	1,540	1,290	1,540	1,690	920	2,950	1,790	846	956	735
23	1,090	1,360	1,330	1,390	1,530	1,910	868	2,780	1,740	725	874	740
24	1,050	998	1,090	1,480	1,450	1,900	1,110	2,570	1,570	974	791	730
25	1,050	1,050	1,050	1,460	1,310	1,860	1,380	2,380	1,140	998	740	730
26	998	1,580	974	1,640	1,140	1,580	1,430	2,310	1,470	986	745	730
27	968	1,400	1,090	2,560	1,310	1,480	1,430	2,260	1,490	980	745	735
28	914	1,480	1,170	3,600	1,430	1,500	1,140	2,280	1,370	890	740	740
29	932	1,630	1,140	3,520	------	1,420	986	2,350	1,360	730	735	735
30	902	1,520	1,140	2,930	------	1,380	868	2,240	1,320	720	735	740
31	926	------	1,130	2,640	------	1,220	------	2,090	------	896	740	------
TOTAL	27,224	44,062	50,374	52,428	44,740	43,340	36,272	69,300	52,850	30,776	25,580	22,903
MEAN	878	1,469	1,625	1,691	1,598	1,398	1,209	2,235	1,762	993	825	763
MAX	1,120	3,260	2,920	3,600	2,290	1,910	1,430	2,950	2,100	1,390	1,000	846
MIN	675	846	974	998	1,140	1,020	868	1,300	1,140	635	725	725
AC-FT	54,000	87,400	99,920	104,000	88,740	85,960	71,940	137,500	104,800	61,040	50,740	45,430

CAL YR 1966: TOTAL 470,875 MEAN 1,290 MAX 4,150 MIN 592 AC-FT 934,000
WAT YR 1967: TOTAL 499,849 MEAN 1,369 MAX 3,600 MIN 635 AC-FT 991,400

14-3167. Steamboat Creek near Glide, Oreg.

Location.--Lat 43°21'00", long 122°43'40", in N½ sec.32, T.25½ S., R.1 E., on right bank in Canton Creek Forest Service Park, 200 ft downstream from Canton Creek, 19 miles northeast of Glide, and at mile 0.5.

Drainage area.--227 sq mi.

Records available.--Water year 1956 (annual maximum), June 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,128.55 ft above mean sea level (levels by Bureau of Public Roads). Oct. 7, 1955, to June 13, 1956, crest-stage gage at site 100 ft upstream at same datum. June 14, 1956, to Sept. 23, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--11 years, 719 cfs (520,500 acre-ft per year).

Extremes.--Maximum discharge during year, 13,800 cfs Jan. 28 (gage height, 12.15 ft); minimum, 32 cfs Oct. 10, 11.

1955-67: Maximum discharge, 51,000 cfs Dec. 22, 1964 (gage height, 25.6 ft, from floodmark), from rating curve extended above 13,000 cfs on basis of slope area measurement at 17.96 ft.

1956-67: Minimum discharge, 31 cfs Sept. 24, 1957, Oct. 4, 5, 1960.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	35	60	1,360	610	1,850	930	659	743	404	108	55	38
2	35	57	1,320	659	1,460	923	701	713	399	103	55	38
3	35	54	1,130	716	1,240	768	831	750	360	99	53	38
4	34	52	1,880	1,040	1,110	671	937	851	386	94	52	38
5	34	53	2,180	922	1,040	591	930	825	495	89	52	38
6	33	85	1,680	761	910	542	903	831	432	88	51	38
7	33	73	1,620	657	812	510	844	984	364	86	51	38
8	33	64	1,340	587	743	480	812	1,100	327	85	51	37
9	33	61	1,070	586	689	510	695	1,170	301	82	51	37
10	32	402	3,030	780	630	613	619	1,040	279	80	51	38
11	33	2,110	2,940	1,360	564	537	547	897	262	79	49	69
12	45	1,910	4,850	1,570	521	516	490	950	252	77	48	70
13	75	926	4,890	2,340	542	495	500	825	237	76	47	53
14	55	4,160	4,040	2,040	505	485	500	762	246	73	46	46
15	48	5,670	2,140	1,540	505	490	480	831	240	71	45	44
16	42	3,990	1,690	1,290	580	1,260	485	998	243	70	45	41
17	39	1,640	1,380	1,010	1,900	1,500	521	1,100	240	69	44	44
18	38	937	1,120	834	2,880	1,320	586	977	228	68	44	57
19	37	760	946	794	1,680	1,070	619	870	219	68	43	49
20	141	1,490	858	3,590	1,250	1,110	591	844	202	66	41	45
21	308	1,370	761	2,570	1,070	1,340	580	838	192	66	41	43
22	897	1,120	647	1,580	991	1,290	625	781	194	65	41	41
23	607	899	579	1,150	1,040	1,490	630	689	174	64	41	39
24	278	688	535	938	1,040	1,470	756	558	158	62	41	39
25	161	601	733	794	1,030	1,240	851	460	148	62	40	38
26	117	987	746	2,770	937	1,030	1,040	413	140	61	40	37
27	102	775	616	5,450	825	870	957	390	131	60	41	37
28	86	833	528	9,990	838	774	825	408	123	60	40	36
29	75	974	494	5,090	------	713	787	446	117	58	39	37
30	68	813	551	3,130	------	683	793	441	114	57	39	48
31	63	------	505	2,600	------	683	------	460	------	56	39	------
TOTAL	3,652	33,614	48,159	59,748	29,182	26,904	21,094	23,945	7,607	2,302	1,416	1,291
MEAN	118	1,120	1,554	1,927	1,042	868	703	772	254	74.3	45.7	43.0
MAX	897	5,670	4,890	9,990	2,880	1,500	1,040	1,170	495	108	55	70
MIN	32	52	494	586	505	480	480	390	114	56	39	36
CFSM	.52	4.94	6.84	8.49	4.59	3.82	3.10	3.40	1.12	.33	.20	.19
IN.	.60	5.51	7.89	9.79	4.78	4.41	3.46	3.92	1.25	.38	.23	.21
AC-FT	7,240	66,670	95,520	118,500	57,880	53,360	41,840	47,490	15,090	4,570	2,810	2,560

CAL YR 1966: TOTAL 275,856 MEAN 756 MAX 12,700 MIN 32 CFSM 3.33 IN 45.19 AC-FT 547,200
WAT YR 1967: TOTAL 258,914 MEAN 709 MAX 9,990 MIN 32 CFSM 3.12 IN 42.42 AC-FT 513,500

Peak discharge (base, 4,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-14	1530	8.49	6,810				
12-13	2400	7.77	5,580				
1-28	0730	12.15	13,800				

14-3176. Rock Creek near Glide, Oreg.

Location.--Lat 43°20'45", long 122°59'30", in SE¼SE¼ sec.36, T.25 S., R.3 W., on left bank 0.3 mile downstream from McComas Creek, 5.8 miles northeast of Glide, and at mile 1.2.

Drainage area.--97.4 sq mi.

Records available.--Water years 1956-57 (annual maximum), June 1957 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 940 ft (from topographic map). Nov. 8, 1955, to June 16, 1957, crest-stage gage and June 17, 1957, to Sept. 30, 1965, graphic water-stage recorder at site 800 ft downstream at different datum.

Average discharge.--10 years, 358 cfs (259,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,420 cfs Jan. 28 (gage height, 7.99 ft); minimum, 17 cfs Oct. 5-12, Aug. 30, Sept. 1-10, 27-29.

1955-67: Maximum discharge, 22,800 cfs Dec. 22, 1964 (gage height, 20.3 ft, from floodmark, site and datum then in use), from rating curve extended above 5,400 cfs on basis of slope-area measurement at gage height 14.83 ft.

1957-67: Minimum discharge, 14 cfs Sept. 5-11, 1966.

Remarks.--Records good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	38	526	353	830	376	362	322	152	53	29	18
2	19	36	530	360	686	387	369	316	144	51	28	17
3	19	35	468	439	575	355	380	313	126	50	27	17
4	19	34	875	566	510	325	394	319	124	48	27	18
5	18	34	1,060	514	456	303	380	303	132	47	26	18
6	17	62	830	457	401	282	362	300	117	46	27	17
7	17	52	860	428	359	264	338	303	109	45	27	17
8	17	43	785	397	325	250	319	313	104	45	26	17
9	17	41	655	414	294	270	297	335	99	44	25	17
10	17	325	1,130	507	303	325	279	329	94	43	25	18
11	17	1,280	1,070	655	282	300	261	332	92	42	24	38
12	25	865	1,290	669	261	297	244	352	91	41	23	34
13	47	518	1,280	956	270	285	253	316	88	40	23	24
14	33	1,630	1,330	885	264	276	258	285	83	39	22	21
15	27	2,040	951	714	282	285	247	273	81	39	22	20
16	23	1,730	750	619	372	514	250	264	79	38	22	19
17	22	956	619	538	1,130	558	279	256	76	37	21	20
18	22	624	530	480	1,280	538	300	236	73	36	21	30
19	21	518	464	464	840	468	313	215	71	36	20	24
20	125	542	428	1,100	626	441	300	202	69	36	20	22
21	161	526	390	1,120	530	475	291	187	71	35	18	21
22	495	507	357	810	483	468	294	176	77	35	20	20
23	360	424	335	642	464	506	300	163	72	34	20	19
24	159	357	319	558	452	526	297	154	68	33	20	19
25	95	344	428	495	445	464	359	144	63	33	20	18
26	72	491	417	1,070	411	426	437	136	61	34	20	18
27	67	407	370	1,550	376	383	426	128	60	33	19	18
28	54	376	338	2,560	355	359	390	136	58	32	19	17
29	48	360	331	1,670	------	359	380	140	56	31	18	18
30	43	322	347	1,210	------	362	342	154	55	30	18	27
31	41	------	322	1,020	------	380	------	185	------	29	110	------
TOTAL	2,137	15,517	20,385	24,220	13,862	11,807	9,701	7,587	2,645	1,215	787	621
MEAN	68.9	517	658	781	495	381	323	245	88.2	39.2	25.4	20.7
MAX	495	2,040	1,330	2,560	1,280	558	437	352	152	53	110	38
MIN	17	34	319	353	261	250	244	128	55	29	18	17
CFSM	.71	5.31	6.75	8.02	5.08	3.91	3.32	2.51	.91	.40	.26	.21
IN.	.82	5.92	7.78	9.25	5.29	4.51	3.70	2.90	1.01	.46	.30	.24
AC-FT	4,240	30,780	40,430	48,040	27,490	23,420	19,240	15,050	5,250	2,410	1,560	1,230

CAL YR 1966: TOTAL 122,543 MEAN 336 MAX 4,000 MIN 15 CFSM 3.45 IN 46.79 AC-FT 243,100
WAT YR 1967: TOTAL 110,484 MEAN 303 MAX 2,560 MIN 17 CFSM 3.11 IN 42.19 AC-FT 219,100

Peak discharge (base, 3,000 cfs).--Jan. 28 (0800 hrs) 3,420 cfs (7.99 ft).

14-3180. Little River at Peel, Oreg.

Location.--Lat 43°15'10", long 123°01'30", in NW¼ sec.2, T.27 S., R.3 W., on left bank 0.6 mile southeast of Peel, 0.9 mile downstream from Cavitt Creek, and at mile 6.3.

Drainage area.--177 sq mi.

Records available.--August 1954 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 828.33 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 472 cfs (341,700 acre-ft per year).

Extremes.--Maximum discharge during year, 6,340 cfs Nov. 14 (gage height, 9.96 ft), from rating curve extended above 3,400 cfs on basis of slope-area measurement at gage height 16.55 ft; minimum, 14 cfs Sept. 2, 9, 10, 28, 29.

1954-67: Maximum discharge, 21,100 cfs Dec. 11, 1956 (gage height, 19.63 ft), from rating curve extended above 5,900 cfs on basis of slope-area measurement at gage height 16.55 ft; minimum, 14 cfs Sept. 2, 9, 10, 28, 29, 1967.

Maximum discharge known, 22,700 cfs Nov. 22, 23, 1953 (gage height, 20.6 ft, from floodmark), from rating curve extended above 5,900 cfs on basis of slope-area measurement at gage height 16.55 ft.

Remarks.--Records excellent. No regulation. Small diversions for rural domestic use and irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	20	38	1,010	389	1,320	539	444	427	318	64	27	15
2	20	36	1,010	389	991	549	449	413	292	62	26	15
3	21	34	835	413	789	486	481	418	251	59	26	16
4	20	33	2,620	525	666	431	595	458	235	58	26	16
5	19	34	3,000	544	585	389	628	453	216	56	25	16
6	19	98	1,670	495	510	356	617	467	204	54	26	15
7	19	84	1,530	467	453	329	564	534	187	52	26	16
8	19	62	1,400	440	413	311	529	622	176	49	25	15
9	19	55	1,140	505	380	337	467	771	166	45	25	15
10	19	320	1,870	705	352	462	418	765	158	43	26	16
11	19	1,590	1,700	855	325	440	380	639	149	42	24	26
12	24	808	1,920	873	303	422	352	590	144	41	23	33
13	49	517	2,190	1,530	333	405	360	520	144	40	21	24
14	36	3,770	1,970	1,320	333	384	368	486	129	39	21	21
15	29	4,890	1,310	997	384	401	352	505	122	37	20	18
16	26	3,600	975	861	491	1,110	356	564	118	36	21	17
17	25	1,510	770	688	1,900	1,120	401	600	112	36	19	19
18	23	864	625	575	2,230	879	481	539	107	35	19	24
19	22	711	524	539	1,350	732	515	491	101	36	19	23
20	44	1,060	484	1,920	939	760	472	467	96	35	18	21
21	127	1,370	433	2,150	754	807	435	444	99	35	17	19
22	408	1,110	379	1,320	666	789	418	409	101	34	18	19
23	378	789	349	909	633	1,010	409	372	97	33	18	18
24	183	587	318	710	606	891	393	322	90	32	17	17
25	111	516	405	569	655	721	500	282	85	31	17	17
26	81	833	418	1,420	600	622	633	257	80	31	17	16
27	66	686	368	2,240	525	534	595	238	77	31	17	15
28	56	795	329	4,100	495	491	525	241	73	30	17	15
29	48	953	325	2,690	------	486	477	268	70	29	16	17
30	44	736	397	1,850	------	486	458	282	67	28	16	26
31	40	------	360	1,760	------	481	------	393	------	28	15	------
TOTAL	2,034	28,489	32,634	34,748	19,981	15,160	14,072	14,237	4,264	1,261	648	560
MEAN	65.6	950	1,053	1,121	714	586	469	459	142	40.7	20.9	18.7
MAX	408	4,890	3,000	4,100	2,230	1,120	633	771	318	64	27	33
MIN	19	33	318	389	303	311	352	238	67	28	15	15
CFSM	.37	5.37	5.95	6.33	4.03	3.31	2.65	2.59	.80	.23	.12	.11
IN.	.43	5.99	6.86	7.30	4.20	3.82	2.96	2.99	.90	.26	.14	.12
AC-FT	4,030	56,510	64,730	68,920	39,630	36,020	27,910	28,240	8,460	2,500	1,290	1,110

CAL YR 1966: TOTAL 170,071 MEAN 466 MAX 7,830 MIN 16 CFSM 2.63 IN 35.73 AC-FT 337,300
WAT YR 1967: TOTAL 171,088 MEAN 469 MAX 4,890 MIN 15 CFSM 2.65 IN 35.95 AC-FT 339,300

Peak discharge (base, 6,000 cfs).--Nov. 14 (1400 hrs) 6,340 cfs (9.96 ft).

14-3192. Sutherlin Creek at Sutherlin, Oreg.

Location.--Lat 43°23'20", long 123°18'10", in SW¼ sec.16, T.25 S., R.5 W., on right bank at downstream side of Waite Street bridge in Sutherlin, 1.5 miles upstream from Cooper Creek, and at mile 8.4.

Drainage area.--16.4 sq mi.

Records available.--October 1955 to September 1967 (discontinued).

Gage.--Staff gage read once or twice daily and crest-stage gage. Datum of gage is 511.46 ft above sea level, datum of 1929, supplementary adjustment of 1947. Prior to Dec. 17, 1963, at datum 1.00 ft higher.

Average discharge.--12 years, 25.9 cfs (18,750 acre-ft per year).

Extremes.--Maximum discharge during year, 512 cfs Dec. 4 (gage height, 3.95 ft, from graph based on gage readings); no flow Oct. 1 to Nov. 13, June 17 to Sept. 4, Sept. 20-30.

1955-67: Maximum discharge, 2,250 cfs Feb. 10, 1961 (gage height, 7.64 ft, datum then in use), from rating curve extended above 750 cfs by logarithmic plotting; maximum gage height, 8.24 ft Dec. 21, 1957, datum then in use; no flow for several months each year.

Remarks.--Records fair. No regulation. A few small diversions by pumping for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1		0	42	9.9	75	21	6.0	7.4	.08			0
2		0	56	9.9	54	20	3.7	4.7	.08			0
3		0	34	9.1	41	29	2.8	3.2	.08			0
4		0	251	16	32	22	2.1	2.4	.08			0
5		0	278	66	25	19	2.4	2.1	.08			20
6		0	116	79	20	21	2.1	1.2	.08			40
7		0	158	61	16	13	1.5	1.0	.08			45
8		0	167	42	16	11	1.2	.77	.08			40
9		0	93	32	13	10	1.0	1.2	.08			16
10		0	75	24	12	43	1.0	4.2	.08			4.0
11		0	53	35	10	29	.77	2.8	.08			2.6
12		0	46	25	9.5	22	.60	1.8	.08			1.8
13		0	48	44	10	26	.43	1.0	.77			1.2
14		2.9	43	31	30	19	1.8	.77	.08			.77
15		43	38	25	40	14	1.5	.60	.03			.40
16		92	29	23	46	19	1.0	.60	.02			.10
17		31	21	18	54	21	7.4	.43	0			0
18		13	17	15	46	28	5.3	.43	0			.24
19		27	14	14	36	23	2.4	.43	0			.10
20		35	23	194	29	18	2.1	.43	0			0
21		28	19	240	24	15	11	.43	0			0
22		19	14	141	20	14	4.7	.43	0			0
23		13	12	76	16	20	2.8	.43	0			0
24		9.9	12	46	14	20	2.8	.28	0			0
25		9.1	19	19	27	16	16	.43	0			0
26		11	14	87	16	16	9.6	.43	0			0
27		8.5	12	81	14	15	14	.28	0			0
28		7.6	9.9	360	12	15	7.4	.36	0			0
29		8.8	11	194	- - - - -	15	4.7	.36	0			0
30		7.6	12	112	- - - - -	18	9.0	.28	0			0
31		- - - - -	9.1	119	- - - - -	20	- - - - -	.43	- - - - -			- - - - -
Total	0	366.4	1,746.0	2,247.9	757.5	612	129.1	41.60	1.86	0	0	172.21
Mean	0	12.2	56.3	72.5	27.1	19.7	4.30	1.34	0.06	0	0	5.74
Max	0	92	278	360	75	43	16	7.4	.77	0	0	45
Min	0	0	9.1	9.1	9.5	10	.43	.28	0	0	0	0
Cfsm	0	0.744	3.43	4.42	1.65	1.20	2.62	0.082	0.004	0	0	0.350
In.	0	0.83	0.40	5.10	1.72	1.39	2.93	0.09	0.04	0	0	0.39
Ac-ft	0	727	3,460	4,460	1,500	1,210	256	83	3.7	0	0	342

Cal yr 1966: Total 7,684.73 Mean 21.1 Max 920 Min 0 Cfsm 1.29 In. 1.74 Ac-ft 15,240
Wtr yr 1967: Total 6,074.57 Mean 16.6 Max 360 Min 0 Cfsm 1.01 In. 1.38 Ac-ft 12,050

Peak discharge (base, 400 cfs).--Dec. 4 (2100 hrs) 512 cfs (3.95 ft); Jan. 28 (1100 hrs) 488 cfs (.3.85 ft).

14-3195. North Umpqua River at Winchester, Oreg.

Location.--Lat 43°16'20", long 123°24'40", in NW¼NE¼ sec.33, T.26 S., R.6 W., on left bank 400 ft downstream from county bridge, 3 miles west of Winchester, and at mile 1.8.

Drainage area.--1,344 sq mi.

Records available.--October 1908 to December 1913, October 1923 to September 1929, August 1954 to September 1967. Prior to December 1908 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 372.97 ft above mean sea level (Douglas County Road Department bench mark). Oct. 1, 1908 to Dec. 31, 1913, and Oct. 1, 1923, to Sept. 30, 1929, staff gage at site 4.8 miles upstream at different datums. Aug. 27, 1954, to June 2, 1964, graphic water-stage recorder and June 3, 1964, to Aug. 12, 1965, digital water-stage recorder on right bank at same datum.

Average discharge.--24 years, 3,673 cfs (2,659,000 acre-ft per year).

Extremes.--Maximum discharge during year, 35,800 cfs Jan. 28 (gage height, 14.46 ft); minimum, 388 cfs Oct. 6.

1908-13, 1923-29, 1954-67: Maximum discharge, 119,000 cfs Dec. 22, 1964 (gage height, 34.2 ft, from floodmark); minimum, 383 cfs Sept. 25, 1960, minimum daily, 578 cfs Sept. 14, 1959.

Flood of Nov. 23, 1953, reached a stage of 28.4 ft, from floodmarks, present site and datum (discharge, 93,300 cfs).

Remarks.--Records excellent except those for period of backwater from moss, which are good. Diurnal fluctuation caused by upstream powerplants; slight regulation by Lemolo Lake (see sta. no. 3130) and Diamond Lake. Several small diversions for irrigation above station. Records of chemical analysis for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	691	1,100	4,920	2,770	9,300	3,850	3,420	3,160	3,160	1,600	1,060	744
2	714	1,080	6,290	2,830	7,250	4,200	3,320	3,400	3,050	1,560	1,060	809
3	780	1,070	5,440	2,990	5,990	3,800	3,270	3,300	2,890	1,250	1,020	827
4	764	1,060	9,140	3,850	5,290	3,440	3,800	3,540	2,840	1,470	1,030	845
5	939	1,080	16,200	4,660	4,770	3,160	4,000	3,800	2,870	1,170	980	792
6	641	1,180	9,380	4,320	4,300	2,810	3,970	3,760	3,050	1,620	800	784
7	622	1,270	8,980	4,110	3,980	2,920	3,810	4,050	2,920	1,390	836	800
8	766	1,240	9,010	3,590	3,730	2,750	3,630	4,600	2,860	1,330	1,050	836
9	810	1,190	6,310	3,340	3,590	2,710	3,340	4,960	2,770	1,270	1,120	768
10	756	1,360	9,190	3,900	3,400	3,560	3,010	5,970	2,650	1,050	1,050	836
11	764	6,910	10,300	4,910	3,220	3,560	3,020	5,000	2,620	1,320	1,060	827
12	864	6,960	13,800	5,650	3,070	3,110	2,930	4,640	2,530	1,350	962	1,040
13	966	4,460	14,400	7,630	3,190	3,050	2,860	4,370	2,440	1,240	971	953
14	1,120	11,600	15,800	8,330	3,540	3,040	3,050	3,900	2,420	1,180	899	944
15	1,080	22,500	9,760	6,190	3,680	2,960	2,710	3,930	2,410	1,210	836	908
16	937	21,300	7,410	5,420	3,780	4,000	2,590	4,340	2,400	872	854	890
17	864	9,410	5,860	4,790	7,010	6,480	2,680	5,170	2,370	752	845	827
18	1,030	5,400	4,920	4,240	11,900	5,670	3,290	5,130	2,370	1,240	809	818
19	1,020	4,340	4,370	3,910	8,030	4,910	3,440	4,940	2,390	1,270	800	863
20	1,090	6,410	4,300	10,300	5,860	4,320	3,400	4,700	2,360	1,200	784	809
21	1,840	7,520	3,970	14,200	5,060	5,020	3,270	4,750	2,330	1,160	752	800
22	2,310	6,410	3,490	8,900	4,560	5,020	2,930	4,730	2,330	1,120	744	784
23	3,530	4,890	3,220	5,990	4,390	5,820	2,830	4,540	2,290	1,010	1,020	768
24	2,310	3,680	2,920	5,040	4,320	6,150	2,780	4,020	2,180	872	944	776
25	1,720	2,990	2,890	4,450	4,300	5,420	3,390	3,630	1,870	1,140	827	760
26	1,510	3,950	3,290	7,230	4,030	4,830	4,130	3,390	1,530	1,180	752	752
27	1,360	4,070	2,920	16,700	3,540	4,000	4,300	3,290	1,850	1,170	760	744
28	1,270	3,690	2,810	28,600	3,630	3,850	3,950	3,230	1,790	1,140	768	744
29	1,160	4,730	2,720	21,100	------	3,810	3,420	3,470	1,620	1,020	752	752
30	1,150	4,180	2,840	14,100	------	3,680	3,320	3,370	1,640	845	736	800
31	1,090	------	2,800	12,000	------	3,630	------	3,610	------	854	736	------
TOTAL	36,468	157,030	209,650	236,040	138,710	125,530	99,860	128,690	72,800	36,855	27,617	24,600
MEAN	1,176	5,234	6,763	7,614	4,954	4,049	3,329	4,151	2,427	1,189	891	820
MAX	3,530	22,500	16,200	28,600	11,900	6,480	4,300	5,970	3,160	1,620	1,120	1,040
MIN	622	1,060	2,720	2,770	3,070	2,710	2,590	3,160	1,530	752	736	744
AC-FT	72,330	311,500	415,800	468,200	275,100	249,000	198,100	255,300	144,400	73,100	54,780	48,790

CAL YR 1966: TOTAL 1,375,254 MEAN 3,768 MAX 43,000 MIN 583 AC-FT 2,728,000
WAT YR 1967: TOTAL 1,293,850 MEAN 3,545 MAX 28,600 MIN 622 AC-FT 2,566,000

Peak discharge (base, 20,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0130	11.97	26,900				
12- 5	0300	10.39	21,400				
1-28	1330	14.46	35,800				

Note.--Backwater from moss, Apr. 25 to Aug. 3.

14-3207. Calapooya Creek near Oakland, Oreg.

Location.--Lat 43°24'10", long 123°21'45", in NW¼ sec.13, T.25 S., R.6 W., near center of span on downstream side of highway bridge, 0.9 mile downstream from Williams Creek, 2.5 miles northwest of Sutherlin, 3.5 miles southwest of Oakland, and at mile 10.1.

Drainage area.--210 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Wire-weight gage read once or twice daily and crest-stage gage. Datum of gage is 371.26 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--12 years, 509 cfs (368,500 acre-ft per year).

Extremes.--Maximum discharge during year, 6,340 cfs Dec. 4 (gage height, 14.60 ft); minimum observed, 1.9 cfs Aug. 6.

1955-67: Maximum discharge, 26,600 cfs Nov. 23, 1961 (gage height, 21.55 ft); no flow Sept. 9-11, 1966.

Remarks.--Records good. No regulation. Diversion above station for municipal supply of cities of Sutherlin and Oakland. Small diversions by pumping for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	6.6	29	612	322	1,450	380	517	496	212	25	3.6	4.2
2	8.1	28	858	338	1,090	422	468	447	151	23	3.8	4.5
3	7.7	25	754	325	858	461	434	401	118	20	3.6	4.2
4	7.0	22	2,760	434	730	407	404	398	102	18	3.4	3.8
5	8.1	25	3,590	1,090	622	380	401	338	92	16	2.6	3.6
6	7.3	25	1,900	1,170	517	338	377	305	84	14	1.9	3.2
7	5.9	55	2,050	1,190	458	322	330	270	86	12	3.2	3.8
8	5.6	40	2,490	906	404	288	300	262	81	12	4.0	3.8
9	7.7	33	1,700	746	353	658	280	265	78	12	5.3	3.6
10	8.1	37	1,750	738	318	615	262	404	76	12	4.2	3.8
11	7.7	116	1,550	984	288	552	240	371	74	11	3.6	6.2
12	8.9	50	1,400	866	250	552	225	335	70	10	4.8	18
13	14	380	1,450	1,250	262	545	230	300	68	9.3	4.8	12
14	28	1,350	1,700	1,090	386	492	275	275	62	8.9	4.0	8.5
15	27	2,660	1,250	882	643	461	275	238	56	7.3	3.6	6.6
16	26	3,200	998	754	939	534	265	218	54	7.5	3.4	5.9
17	16	1,450	754	615	1,200	612	416	200	50	7.7	2.4	5.9
18	14	810	618	548	1,560	734	434	175	48	6.2	2.2	6.6
19	12	1,020	520	545	1,130	674	416	165	46	5.9	2.4	21
20	15	988	538	2,270	858	590	395	145	43	6.6	2.4	14
21	104	738	444	3,320	686	538	413	126	43	6.6	2.6	11
22	74	587	398	2,270	580	506	362	111	63	5.9	3.2	8.5
23	175	454	365	1,500	500	517	330	99	60	5.3	3.0	8.1
24	102	362	338	1,020	608	538	312	94	50	5.0	3.2	6.5
25	68	300	380	874	510	489	395	84	43	5.9	3.8	5.0
26	51	365	404	1,650	404	464	468	80	39	7.7	4.0	4.2
27	50	340	371	2,380	380	407	629	81	37	7.0	3.6	2.8
28	54	288	345	4,870	345	386	618	88	35	5.6	3.4	2.6
29	50	285	325	2,980		454	506	116	33	4.8	3.8	4.2
30	42	250	359	2,000	- - - - -	542	545	108	29	4.8	4.0	14
31	32	- - - - -	312	1,900	- - - - -	580	- - - - -	250	- - - - -	4.8	4.0	- - - - -
Total	1,042.7	16,312	33,283	41,827	18,329	15,438	11,522	7,245	2,083	307.8	107.8	210.1
Mean	33.6	544	1,074	1,349	655	498	384	234	69.4	9.93	3.48	7.00
Max	175	3,200	3,590	4,870	1,560	734	629	496	212	25	5.3	21
Min	5.6	22	312	322	250	288	225	80	29	4.8	1.9	2.6
Cfsm	0.160	2.59	5.11	6.42	3.12	2.37	1.83	1.11	0.330	0.047	0.017	0.033
In.	0.18	2.89	5.89	7.41	3.25	2.73	2.04	1.28	0.37	0.05	0.02	0.04
Ac-ft	2,070	32,350	66,020	82,960	36,360	30,620	22,850	14,370	4,130	611	214	417

Cal yr 1966: Total	157,831.10	Mean	432	Max	8,080	Min	0	Cfsm	2.06	In.	27.95	Ac-ft	313,100
Wtr yr 1967: Total	147,707.4	Mean	405	Max	4,870	Min	1.9	Cfsm	1.93	In.	26.16	Ac-ft	293,000

Peak discharge (base, 6,300 cfs).--Dec. 4 (2300 hrs) 6,340 cfs (14.60 ft).

14-3210. Umpqua River near Elkton, Oreg.

Location.--Lat 43°35'10", long 123°33'30", in NW¼ sec.8, T.23 S., R.7 W., on right bank 3.5 miles south of Elkton, 8.2 miles upstream from Elk Creek, at at mile 56.8.

Drainage area.--3,683 sq mi.

Records available.--October 1905 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 90.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Jan. 1, 1910, staff gage at site 1,700 ft upstream at datum 2.63 ft higher; Jan. 1, 1910, to Sept. 30, 1929, at datum 2.11 ft higher, and Oct. 1, 1929, to Nov. 1, 1956, at datum 1.15 ft higher. Nov. 2, 1956, to Sept. 22, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--62 years, 7,469 cfs (5,407,000 acre-ft per year).

Extremes.--Maximum discharge during year, 82,600 cfs Jan. 28 (gage height, 24.44 ft); minimum, 864 cfs Aug. 23.

1905-67: Maximum discharge, 265,000 cfs Dec. 23, 1964 (gage height, 51.95 ft, from floodmarks); minimum observed, 640 cfs July 18, 1926.

Maximum stage known since at least December 1861, 51.95 ft, Dec. 23, 1964, from floodmarks (discharge, 265,000 cfs).

Remarks.--Records good. Powerplants on North Umpqua River ordinarily do not affect discharge at this station. Diversions for irrigation of about 12,000 acres above station. Records of chemical analyses for the water year are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,070	1,360	9,070	4,970	26,200	6,930	7,760	6,560	5,170	1,960	966	898
2	1,060	1,350	14,600	5,050	20,400	7,660	7,340	6,340	4,650	1,900	994	895
3	1,040	1,330	19,500	5,230	16,500	8,220	6,850	6,210	4,430	1,850	1,090	890
4	1,080	1,310	18,300	5,840	13,700	7,320	6,890	6,070	4,270	1,520	1,070	928
5	1,050	1,300	58,700	8,750	11,900	6,570	7,410	6,340	4,090	1,690	1,060	944
6	1,120	1,320	37,400	10,000	10,400	6,080	7,560	6,460	4,110	1,370	1,060	917
7	1,070	1,370	26,800	9,740	9,430	5,490	7,430	6,370	4,220	1,760	983	911
8	964	1,450	30,100	8,790	8,400	5,460	6,990	6,900	3,970	1,570	979	910
9	1,010	1,540	23,100	7,710	7,700	5,080	6,600	7,740	3,930	1,450	1,030	924
10	1,070	1,570	20,600	7,820	7,180	5,840	6,030	9,700	3,720	1,400	1,120	927
11	1,050	2,050	25,400	8,580	6,600	8,300	5,610	10,300	3,610	1,240	1,140	926
12	1,050	10,100	24,700	10,500	6,140	7,930	5,500	8,660	3,530	1,380	1,060	976
13	1,100	8,480	25,600	11,800	5,900	7,480	5,320	8,070	3,410	1,410	1,060	999
14	1,130	7,410	30,500	15,700	6,900	7,170	5,350	7,160	3,300	1,330	1,030	1,040
15	1,230	33,700	23,900	15,000	7,830	6,780	5,510	6,520	3,250	1,250	1,020	1,010
16	1,250	52,700	17,700	12,000	9,400	7,180	5,230	6,580	3,160	1,270	957	997
17	1,190	28,100	14,300	10,500	10,700	16,200	5,490	7,430	3,100	1,070	951	991
18	1,130	14,700	11,500	9,000	21,900	15,900	6,320	8,280	3,050	992	952	989
19	1,190	10,000	9,770	7,930	21,000	13,800	7,170	8,070	2,990	1,160	929	1,000
20	1,220	14,600	8,790	9,550	15,300	11,500	7,240	7,600	2,960	1,260	918	1,000
21	1,280	20,300	8,310	37,000	12,300	11,600	6,910	7,270	2,930	1,250	914	1,000
22	2,030	22,800	7,290	31,600	10,500	11,900	6,430	7,300	2,920	1,210	899	1,000
23	3,120	15,400	6,530	20,600	9,480	11,700	5,880	7,140	2,920	1,180	883	1,000
24	4,090	10,900	5,990	15,700	8,950	14,700	5,760	6,630	2,820	1,110	969	1,000
25	3,220	8,090	5,440	12,900	8,640	13,800	5,830	5,920	2,700	1,020	993	1,000
26	2,390	6,880	5,760	15,800	8,480	11,800	6,800	5,350	2,350	1,120	934	1,000
27	1,990	8,410	5,910	33,900	7,730	9,880	7,920	4,970	1,980	1,200	919	950
28	1,710	7,650	5,390	61,000	6,950	8,530	7,930	4,760	2,280	1,190	901	900
29	1,590	8,220	5,110	63,200	-----	8,140	7,200	4,720	2,170	1,170	904	900
30	1,470	9,940	4,920	41,200	------	8,030	6,860	5,020	1,980	1,120	900	950
31	1,410	------	5,100	32,800	------	8,020	------	4,970	------	1,010	898	------
TOTAL	46,374	314,330	516,080	550,160	316,510	284,990	197,120	211,410	99,970	41,412	30,483	28,772
MEAN	1,496	10,480	16,650	17,750	11,300	9,193	6,571	6,820	3,332	1,336	983	959
MAX	4,090	52,700	58,700	63,200	26,200	16,200	7,930	10,300	5,170	1,960	1,140	1,040
MIN	964	1,300	4,920	4,970	5,900	5,080	5,230	4,720	1,980	992	883	890
CFSM	.41	2.84	4.52	4.82	3.07	2.50	1.78	1.85	.90	.36	.27	.26
IN.	.47	3.17	5.21	5.56	3.20	2.88	1.99	2.13	1.01	.42	.31	.29
AC-FT	91,980	623,500	1,024M	1,091M	627,800	565,300	391,000	419,300	198,300	82,140	60,460	57,070

CAL YR 1966: TOTAL 2,930,905 MEAN 8,030 MAX 119,000 MIN 896 CFSM 2.18 IN 29.60 AC-FT 5,813,000
WAT YR 1967: TOTAL 2,637,611 MEAN 7,226 MAX 63,200 MIN 883 CFSM 1.96 IN 26.63 AC-FT 5,232,000

Peak discharge (base, 52,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	1230	19.49	57,600				
12- 5	1300	20.98	64,900				
1-28	2100	24.44	82,600				

14-3220. Elk Creek near Drain, Oreg.

Location.--Lat 43°38'30", long 123°17'50", in NE¼SW¼ sec.21, T.22 S., R.5 W., on right bank at downstream side of highway bridge, 0.2 mile downstream from Yoncalla Creek, 1.7 miles southeast of Drain, and at mile 26.2.

Drainage area.--104 sq mi.

Records available.--October 1955 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 305.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 29, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--12 years, 228 cfs (165,100 acre-ft per year).

Extremes.--Maximum discharge during year, 3,260 cfs Dec. 4 (gage height, 10.84 ft); minimum, 0.02 cfs Aug. 23, 24.

1955-67: Maximum discharge, 15,000 cfs Feb. 10, 1961 (gage height, 23.7 ft, from floodmark), from rating curve extended above 7,500 cfs by logarithmic plotting; no flow at times.

Remarks.--Records excellent. No regulation. Small diversions by pumping for irrigation above station. Municipal supply for town of Yoncalla is diverted from Wilson Creek above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	7.1	328	109	565	143	215	184	49	6.6	.03	1.5
2	3.0	7.1	404	104	437	166	184	160	42	6.3	.03	1.2
3	2.8	7.5	317	114	338	179	160	145	35	6.0	1.9	.91
4	3.0	7.5	1,390	168	274	171	143	130	30	5.2	1.9	.62
5	3.0	8.0	1,930	439	226	155	136	114	28	4.9	.62	.91
6	2.8	9.8	898	453	193	139	121	100	26	3.7	.47	1.2
7	2.8	15	1,030	446	170	124	107	88	26	4.0	1.4	1.4
8	3.0	14	1,190	351	152	115	95	80	25	4.0	1.5	1.9
9	3.3	11	682	274	136	115	90	118	25	4.0	.76	1.7
10	3.5	13	612	230	124	282	86	137	22	3.7	.32	2.2
11	3.8	69	514	245	114	296	80	122	20	3.5	.91	6.0
12	3.8	81	461	212	105	247	74	108	20	3.5	1.1	6.0
13	4.9	69	494	288	124	219	83	94	20	3.5	.62	4.0
14	4.9	700	600	262	143	184	101	83	19	3.3	1.5	3.5
15	4.1	1,390	457	239	278	158	98	75	17	1.9	.91	2.6
16	4.1	1,440	334	214	321	162	116	70	15	2.6	.32	1.4
17	4.1	488	256	182	332	152	203	64	14	.62	.09	1.5
18	3.8	254	208	166	393	203	206	59	13	.09	.03	5.7
19	3.8	523	173	187	346	198	174	54	12	.09	.03	4.6
20	5.3	543	179	1,240	272	198	158	50	11	.03	.03	3.7
21	13	334	160	1,950	221	174	160	45	13	.03	.03	3.3
22	19	226	140	1,030	187	160	136	41	16	1.1	.03	3.0
23	24	168	131	634	163	162	121	40	16	.32	.02	2.4
24	14	139	121	457	149	158	108	37	13	.91	1.4	1.9
25	9.8	118	143	344	158	142	112	35	11	1.2	2.4	1.9
26	8.4	121	140	740	136	143	136	33	9.8	2.6	2.4	1.7
27	9.8	101	130	856	119	125	232	31	8.9	2.2	2.2	1.5
28	10	95	121	2,150	111	130	224	35	8.0	1.2	1.5	1.5
29	8.9	91	115	1,190	------	186	214	42	7.5	2.6	1.4	1.1
30	7.5	91	114	743	------	232	221	45	7.1	1.7	1.4	3.0
31	7.1	------	104	727	------	252	------	59	------	.62	1.5	------
TOTAL	204.3	7,141.0	13,876	16,744	6,287	5,470	4,294	2,478	579.3	82.01	28.75	73.84
MEAN	6.59	238	448	540	225	176	143	79.9	19.3	2.65	.93	2.46
MAX	24	1,440	1,930	2,150	565	296	232	184	49	6.6	2.4	6.0
MIN	2.8	7.1	104	104	105	115	74	31	7.1	.03	.02	.62
AC-FT	405	14,160	27,520	33,210	12,470	10,850	8,520	4,920	1,150	163	57	146
CFSM	.063	2.29	4.31	5.19	2.16	1.69	1.38	.768	.186	.025	.009	.024
IN	.07	2.55	4.96	5.99	2.25	1.96	1.54	.89	.21	.03	.01	.03

CAL YR 1966: TOTAL 72,594.60 MEAN 199 MAX 6,110 MIN 0 AC-FT 144,000
WAT YR 1967: TOTAL 57,258.20 MEAN 157 MAX 2,150 MIN .02 AC-FT 113,600

Peak discharge (base, 3,100 cfs).--Dec. 4 (2300 hrs) 3,260 cfs (10.84 ft).

14-3229. Umpqua River near Scottsburg, Oreg.
(Formerly published as Umpqua River at Scottsburg)

Location.--Lat 43°40'35", long 123°47'50", in NW¼ sec.8, T.22 S., R.9 W., on right bank 100 ft downstream from Wells Creek, 1.8 miles (revised) northeast of Scottsburg, and at mile 29.9.

Drainage area.--4,095 sq mi at bridge 2.6 miles downstream, where all discharge measurements are made.

Records available.--August 1966 to September 1967. Prior to Oct. 1, 1966, published as "Umpqua River at Scottsburg".

Gage.--Digital water-stage recorder. Datum of gage is 7.97 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 20, 1967, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 115,000 cfs Jan. 28 (gage height, 21.97 ft); minimum, 750 cfs Aug. 24, Sept. 3, 4.
1966-67: Maximum discharge, 115,000 cfs Jan. 28, 1967 (gage height, 21.97 ft); minimum, 730 cfs Aug. 21, 22, 1966.
Flood of Dec. 23, 1964, reached a stage of 47.4 ft, from information by local residents (discharge unknown).

Remarks.--Records good. No significant regulation. Many small diversions upstream. Records given herein are for measuring section at Scottsburg bridge, 2.6 miles downstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,070	1,560	9,140	5,560	31,000	7,500	8,700	7,570	5,460	2,250	956	770
2	1,040	1,490	13,300	5,560	23,200	8,500	8,190	7,100	5,590	2,270	912	770
3	1,000	1,480	19,700	5,800	18,000	9,000	7,670	6,940	5,040	2,190	1,050	760
4	1,010	1,480	18,300	6,190	14,900	8,000	7,490	6,710	4,900	2,010	1,110	780
5	1,050	1,480	73,400	9,100	13,000	7,500	7,980	6,760	4,690	1,870	1,060	835
6	1,050	1,440	50,200	11,900	11,400	6,500	8,070	6,990	4,560	1,770	1,080	846
7	1,190	1,450	31,400	11,600	10,300	6,000	7,860	6,860	4,460	1,760	1,050	802
8	1,000	1,580	36,800	10,800	9,210	6,000	7,490	7,100	4,620	1,950	901	791
9	890	1,690	27,600	9,240	8,460	5,500	7,120	7,920	4,490	1,680	923	802
10	1,010	1,870	22,200	8,460	8,000	6,500	6,630	9,210	4,300	1,650	1,100	857
11	1,080	1,980	28,000	9,100	7,000	9,000	6,220	10,600	4,200	1,560	1,200	857
12	1,050	8,220	26,400	11,200	6,500	8,500	6,060	9,490	3,900	1,420	1,110	879
13	1,080	9,700	28,800	12,800	6,500	8,000	5,950	8,400	3,800	1,600	1,110	901
14	1,160	8,400	34,600	16,700	7,000	7,500	5,980	7,720	3,600	1,590	1,050	1,040
15	1,250	33,200	28,400	15,200	8,500	7,500	6,470	7,120	3,500	1,450	1,020	989
16	1,390	63,600	19,700	12,500	10,000	8,000	6,160	6,940	3,400	1,410	967	978
17	1,380	34,400	15,400	11,100	11,500	17,500	6,760	7,330	3,400	1,380	901	967
18	1,240	15,900	12,500	9,600	24,000	17,000	7,360	8,220	3,300	1,070	901	989
19	1,200	11,100	10,700	8,700	23,000	15,000	8,040	8,250	3,300	956	890	934
20	1,370	14,000	9,420	11,800	18,000	12,500	8,010	7,920	3,220	1,350	835	912
21	1,450	15,700	8,880	47,800	14,500	12,500	7,670	7,540	3,200	1,380	824	945
22	1,800	23,600	7,980	39,600	12,000	12,500	7,180	7,540	3,200	1,350	824	912
23	2,460	16,100	7,230	24,200	11,000	12,500	6,600	7,460	3,220	1,310	780	901
24	4,460	11,600	6,680	17,400	9,500	16,000	6,420	7,200	3,180	1,240	770	901
25	3,700	8,670	6,190	14,400	9,500	14,400	6,500	6,660	3,080	1,120	967	890
26	2,860	7,200	6,140	17,300	9,000	12,500	7,380	6,060	2,840	1,000	945	879
27	2,370	8,100	6,530	38,400	8,500	10,900	8,700	5,590	2,430	1,250	868	879
28	2,040	7,890	6,030	74,000	7,500	9,210	8,790	5,300	2,480	1,270	813	857
29	1,900	7,670	5,690	87,900	------	8,760	8,310	5,110	2,570	1,250	813	868
30	1,820	9,770	5,430	53,200	------	8,850	7,770	5,250	2,430	1,240	802	879
31	1,650	------	5,540	39,300	------	8,880	------	5,510	------	1,110	780	------
TOTAL	49,020	332,320	588,280	656,410	350,970	308,500	219,530	224,370	112,360	46,706	29,312	26,370
MEAN	1,581	11,080	18,980	21,170	12,530	9,952	7,318	7,238	3,745	1,507	946	879
MAX	4,460	63,600	73,400	87,900	31,000	17,500	8,790	10,600	5,590	2,270	1,200	1,040
MIN	890	1,440	5,430	5,560	6,500	5,500	5,950	5,110	2,430	956	770	760
CFSM	.39	2.71	4.63	5.17	3.06	2.43	1.79	1.77	.91	.37	.23	.21
IN.	.45	3.02	5.34	5.96	3.19	2.80	1.99	2.04	1.02	.42	.27	.24
AC-FT	97,230	659,100	1,167M	1,302M	696,100	611,900	435,400	445,000	222,900	92,640	58,140	52,300

CAL YR 1966: TOTAL MEAN MAX MIN CFSM IN AC-FT
WAT YR 1967: TOTAL 2,944,148 MEAN 8,066 MAX 87,900 MIN 760 CFSM 1.97 IN 26.74 AC-FT 5,840,000

Peak discharge (base, 58,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	1430	17.45	71,800	1- 28	2400	21.97	115,000
12- 5	1430	19.20	87,400				

Note.--No gage-height record Feb. 10 to Mar. 23.

14-3231. Smith River near Gardiner, Oreg.

Location.--Lat 43°47'05", long 123°48'50", in SW¼SE¼ sec.31, T.20 S., R.9 W., on right bank 0.1 mile downstream from Buck Creek, 15 miles northeast of Gardiner, and at mile 28.5.

Drainage area.--206 sq mi at cableway site 0.2 mile downstream.

Records available.--October 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 50 ft (from topographic map). Prior to July 23, 1967, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 11,600 cfs Jan. 28 (gage height, 8.43 ft); minimum, 7.7 cfs Sept. 7-10.

1965-67: Maximum discharge, 26,700 cfs Jan. 3, 1966 (gage height, 13.00 ft), from rating curve extended above 13,000 cfs by logarithmic plotting; minimum, 4.3 cfs Aug. 26, 1966.

Flood of Feb. 10, 1961 reached a stage of 15.80 ft, from floodmark (discharge, 42,000 cfs). Flood of December 1964 may have been higher.

Remarks.--Records good except those for period of backwater from vegetation, which are fair. No regulation or diversion above station. Records given herein are for measuring site 0.2 mile downstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.1	28	878	440	2,040	426	940	630	134	45	18	8.1
2	8.7	24	1,380	542	1,580	542	751	550	144	42	18	8.1
3	8.7	22	1,260	930	1,250	654	606	489	131	42	17	8.1
4	8.7	22	4,480	1,810	1,040	574	526	426	115	42	17	8.1
5	8.7	22	5,340	2,360	868	475	503	370	106	40	16	8.1
6	8.7	30	3,620	2,080	706	426	447	340	101	39	16	8.1
7	8.7	44	4,390	1,880	654	364	405	305	101	36	16	7.7
8	8.7	42	3,980	1,340	582	334	364	275	93	36	16	7.7
9	8.7	38	2,800	1,030	510	419	334	275	90	36	16	7.7
10	8.7	140	3,000	814	454	1,170	310	270	87	35	15	8.1
11	8.7	1,000	3,200	760	426	1,460	290	270	85	34	15	11
12	9.1	1,140	2,800	733	377	1,180	275	260	82	33	15	17
13	11	1,160	3,200	2,400	461	940	358	228	82	30	15	16
14	13	2,850	3,600	1,930	630	895	662	215	82	30	14	14
15	14	2,610	2,400	1,340	1,580	1,810	931	203	80	28	13	11
16	12	2,660	1,340	1,080	2,360	1,310	980	191	73	28	12	11
17	10	1,210	1,000	895	2,800	1,180	1,540	175	71	28	12	11
18	9.0	622	778	778	2,080	1,720	1,690	175	64	28	11	12
19	9.5	1,060	654	760	1,480	1,530	1,270	164	58	26	11	14
20	18	1,510	574	3,440	1,130	1,160	931	161	60	26	10	13
21	59	1,040	510	5,610	877	895	733	147	60	27	9.5	12
22	260	814	440	3,330	742	760	598	140	64	26	9.5	11
23	250	558	384	2,110	630	841	503	137	73	25	9.5	10
24	135	405	370	1,680	558	1,280	447	131	71	24	9.0	9.5
25	80	352	426	1,700	503	1,220	447	121	64	24	9.0	9.0
26	59	412	447	5,160	433	970	598	118	58	24	9.0	8.5
27	45	260	412	6,750	398	814	895	115	55	24	9.0	8.5
28	42	310	370	9,000	364	688	841	121	52	23	9.0	8.1
29	36	270	358	5,720	------	654	742	137	52	21	9.0	8.5
30	31	280	364	4,160	------	760	715	137	48	20	9.0	12
31	30	------	334	2,710	------	1,050	------	137	------	20	8.1	------
TOTAL	1,228.7	20,935	55,089	75,272	27,513	28,501	20,632	7,413	2,436	942	392.6	306.9
MEAN	39.6	698	1,777	2,428	983	919	688	239	81.2	30.4	12.7	10.2
MAX	260	2,850	5,340	9,000	2,800	1,810	1,690	630	144	45	18	17
MIN	8.7	22	334	440	364	334	275	115	48	20	8.1	7.7
CFSM	.19	3.39	8.63	11.8	4.77	4.46	3.34	1.16	.39	.15	.06	.05
IN.	.22	3.78	9.95	13.6	4.97	5.15	3.72	1.34	.44	.17	.07	.06
AC-FT	2,440	41,520	109,300	149,300	54,570	56,530	40,920	14,700	4,830	1,870	779	609

CAL YR 1966: TOTAL 261,155.0 MEAN 715 MAX 16,400 MIN 4.9 CFSM 3.47 IN 47.15 AC-FT 518,000
WAT YR 1967: TOTAL 240,661.2 MEAN 659 MAX 9,000 MIN 7.7 CFSM 3.20 IN 43.45 AC-FT 477,300

Peak discharge (base, 5,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2100	7.17	8,430				
1-21	0600	6.25	6,270				
1-28	0500	8.43	11,600				

Note.--Backwater from vegetation, July 23 to Sept. 30.

14-3232. Tenmile Creek near Lakeside, Oreg.

Location.--Lat 43°34'40", long 124°11'30", near center of sec.13, T.23 S., R.13 W., near left bank on downstream side of highway bridge, 200 ft upstream from Eel Creek, 0.8 mile upstream from Saunders Creek, and 1 mile west of Lakeside. Records include flow of Eel and Saunders Creeks.

Drainage area.--About 87 sq mi at measuring section 1.2 miles downstream.

Records available.--August 1957 to September 1967.

Gage.--Digital water-stage recorder. Auxiliary staff gage 1.4 miles upstream from base gage, read twice daily. Datum of both gages is at mean sea level. Prior to July 11, 1967, graphic water-stage recorder at same site and datum.

Average discharge.--10 years, 323 cfs (233,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,140 cfs Jan. 30 (elevation, 14.24 ft at base gage, 16.96 ft at auxiliary gage); minimum, 2.0 cfs Aug. 29, Sept. 2.

1957-67: Maximum discharge, 3,330 cfs Dec. 26, 1964 (elevation, 16.46 ft at base gage, 18.78 ft at auxiliary gage); minimum, 2.0 cfs Aug. 29, Sept. 2, 1967.

Maximum known stage at auxiliary gage, 19.83 ft in January 1953, from floodmarks.

Remarks.--Records fair except those for period of no stage-discharge relation in September, which are poor. Flow regulated by natural storage in Tenmile Lake and other lakes tributary to Eel and Saunders Creeks. No diversion above station. Records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.8	16	318	258	1,730	505	528	368	113	59	14	2.6
2	8.8	16	386	252	1,520	480	502	358	111	59	12	2.6
3	8.8	17	430	258	1,310	462	480	342	108	56	12	2.6
4	8.4	17	626	284	1,120	438	452	330	105	54	12	2.6
5	8.4	17	1,050	388	983	418	435	318	102	53	10	2.4
6	8.8	17	1,180	452	884	398	412	302	98	51	9.2	2.4
7	8.8	18	1,220	462	794	378	388	286	93	50	8.8	2.2
8	8.8	18	1,220	428	716	362	372	270	91	48	7.0	2.2
9	8.8	18	1,140	400	650	356	352	262	85	46	7.0	2.2
10	8.8	23	1,050	374	588	366	340	254	81	44	6.3	2.2
11	8.8	48	995	352	540	386	326	250	79	42	5.3	2.4
12	9.2	86	998	322	505	386	308	239	76	40	4.7	2.8
13	9.7	108	1,080	358	480	378	318	230	72	38	4.1	3.2
14	9.7	184	1,330	412	472	398	342	221	72	36	3.3	3.6
15	9.2	272	1,260	428	510	611	368	214	69	36	3.3	4.0
16	8.8	378	1,090	422	602	773	395	206	65	36	3.6	4.6
17	8.8	425	962	398	908	875	468	197	65	35	3.3	5.0
18	8.8	420	842	372	1,200	953	505	190	64	32	3.3	7.0
19	8.8	435	731	360	1,190	965	502	181	63	30	3.1	7.5
20	9.7	532	635	435	1,070	923	488	171	61	28	2.8	7.0
21	9.7	590	558	728	977	854	462	160	59	26	3.1	7.0
22	12	617	462	893	878	788	438	154	57	25	2.8	6.5
23	14	582	405	920	797	740	412	148	55	24	2.8	6.0
24	17	515	372	914	719	710	388	144	53	22	2.6	6.0
25	16	452	360	914	665	671	376	137	50	21	2.6	5.5
26	16	410	342	989	602	635	368	132	49	19	2.8	5.5
27	17	378	328	1,250	555	590	368	128	46	18	2.6	5.5
28	16	368	314	1,780	520	552	368	123	44	17	2.4	5.5
29	16	324	296	2,020	------	532	372	118	47	16	2.4	5.5
30	16	316	278	2,120	------	532	374	118	54	15	2.6	5.5
31	16	------	264	1,930	------	538	------	117	------	14	2.6	------
TOTAL	344.4	7,617	22,522	21,873	23,485	17,953	12,207	6,668	2,187	1,090	164.4	129.6
MEAN	11.1	254	727	706	839	579	407	215	72.9	35.2	5.30	4.32
MAX	17	617	1,330	2,120	1,730	965	528	368	113	59	14	7.5
MIN	8.4	16	264	252	472	356	308	117	44	14	2.4	2.2
AC-FT	683	15,110	44,670	43,380	46,580	35,610	24,210	13,230	4,340	2,160	326	257

CAL YR 1966: TOTAL 121,737.5 MEAN 334 MAX 2,790 MIN 6.6 AC-FT 241,500
WAT YR 1967: TOTAL 116,240.4 MEAN 318 MAX 2,120 MIN 2.2 AC-FT 230,600

14-3245. West Fork Millicoma River near Allegany, Oreg.

Location.--Lat 43°28'35", long 124°03'20", in SW¼NW¼ sec.19, T.24 S., R.11 W., on left bank at highway bridge, 40 ft upstream from Daggett Creek, and 3.8 miles north of Allegany.

Drainage area.--46.5 sq mi.

Records available.--September 1954 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 76.95 ft above mean sea level, datum of 1929. Prior to Mar. 30, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 261 cfs (189,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,240 cfs Dec. 4 (gage height, 9.45 ft); minimum daily, 1.8 cfs Sept. 8-10.

1954-67: Maximum discharge, 8,100 cfs Nov. 24, 1960 (gage height, 15.86 ft); minimum, 1.8 cfs Sept. 5, 9, 1965, Sept. 8-10, 1967.

Flood in January or November 1953 reached a stage of about 17.9 ft, from information by local resident.

Remarks.--Records good except those for periods of backwater from beaver dam, which are fair. Only minor diversions for irrigation above station. Records of chemical analysis for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	7.0	24	450	254	583	138	351	230	53	14	6.0	2.4
2	7.0	23	666	275	450	173	262	192	58	13	6.0	2.6
3	7.0	22	612	363	354	196	207	165	50	12	5.5	2.6
4	7.0	20	1,670	639	282	164	180	144	45	12	5.0	2.6
5	7.0	21	1,960	791	230	140	194	130	40	12	5.0	2.6
6	7.0	31	1,160	614	190	122	182	116	38	11	4.8	2.4
7	7.0	35	1,140	561	162	109	162	106	35	11	4.8	2.0
8	7.0	31	1,050	392	142	100	145	98	35	12	4.8	1.8
9	7.0	29	658	293	128	171	138	106	34	12	4.6	1.8
10	6.5	245	635	240	116	525	127	118	32	12	4.4	1.8
11	6.0	400	755	224	107	416	118	126	31	11	4.4	7.5
12	7.0	360	800	201	98	302	107	112	30	11	4.4	6.0
13	9.0	440	1,130	665	146	244	223	100	27	11	4.2	4.6
14	12	1,000	1,250	621	182	258	419	92	26	11	4.2	3.6
15	11	1,220	623	420	521	935	482	83	24	11	4.2	3.4
16	10	1,040	400	350	870	634	474	76	23	9.9	4.2	3.2
17	9.0	550	288	284	1,690	644	542	70	22	9.7	4.2	3.6
18	8.5	314	221	236	1,070	788	501	67	20	9.0	4.2	4.0
19	8.0	608	181	277	588	557	397	62	19	8.5	4.0	4.0
20	41	671	176	1,110	386	365	306	58	19	8.5	3.8	3.6
21	70	658	148	1,520	280	305	251	54	20	8.0	3.6	3.4
22	264	522	132	933	219	252	204	50	23	8.0	3.2	3.0
23	245	332	130	714	180	292	172	48	23	8.0	2.8	3.0
24	97	233	142	623	154	383	147	45	21	8.0	2.8	2.4
25	56	192	223	720	152	353	166	45	19	8.0	2.4	2.0
26	43	236	237	1,630	131	291	274	44	18	8.0	2.4	1.9
27	43	203	190	1,790	116	232	389	41	18	8.0	2.4	1.9
28	38	170	157	2,220	111	208	330	46	17	7.5	2.2	2.0
29	32	148	163	1,960	------	222	287	53	16	7.0	2.6	2.6
30	30	170	168	1,420	------	388	266	64	15	6.5	2.4	5.0
31	26	------	154	844	------	488	------	64	------	6.0	2.2	------
TOTAL	1,135.0	9,948	17,669	23,184	9,638	10,395	8,003	2,805	851	304.6	121.7	93.3
MEAN	36.6	332	570	748	344	335	267	90.5	28.4	9.83	3.93	3.11
MAX	264	1,220	1,960	2,220	1,690	935	542	230	58	14	6.0	7.5
MIN	6.0	20	130	201	98	100	107	41	15	6.0	2.2	1.8
CFSM	.79	7.13	12.3	16.1	7.40	7.21	5.74	1.95	.61	.21	.08	.07
IN.	.91	7.96	14.1	18.5	7.71	8.31	6.40	2.24	.68	.24	.10	.07
AC-FT	2,250	19,730	35,050	45,980	19,120	20,620	15,870	5,560	1,690	604	241	185

CAL YR 1966: TOTAL 89,361.6 MEAN 245 MAX 4,890 MIN 2.4 CFSM 5.27 IN 71.47 AC-FT 177,200
WAT YR 1967: TOTAL 84,147.6 MEAN 231 MAX 2,220 MIN 1.8 CFSM 4.96 IN 67.30 AC-FT 166,900

Peak discharge (base, 3,000 cfs).--Dec. 4 (2030 hrs) 3,240 cfs (9.45 ft).

Note.--Backwater from beaver dam Oct. 1-19, July 18 to Sept. 30.

14-3246. South Fork Coquille River above Panther Creek, near Illahe, Oreg.

Location.--Lat 42°45'30", long 123°59'10", in SE¼ sec.28, T.32 S., R.11 W., on left bank 0.7 mile upstream from Panther Creek and 10 miles northeast of Illahe.

Drainage area.--31.2 sq mi.

Records available.--October 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 2,117.30 ft above mean sea level (levels by Pacific Power & Light Co.). Prior to Aug. 31, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, 144 cfs (104,300 acre-ft per year).

Extremes.--Maximum discharge during the year, 2,970 cfs Jan. 28 (gage height, 11.53 ft); minimum, 1.0 cfs Sept. 29.

1956-67: Maximum discharge, 8,840 cfs Dec. 22, 1964 (gage height, 17.07 ft, from floodmarks), from rating curve extended above 1,100 cfs on basis of slope-area measurement at gage height 12.75 ft; minimum, 1.0 cfs Oct. 5, 6, 1961, Sept. 29, 1967.

Flood of Dec. 21, 1955, reached a stage of about 15.7 ft (discharge, about 6,300 cfs).

Remarks.--Records excellent except those for period of no gage-height record, which are good. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	2.2	6.0	339	104	419	157	137	162	34	9.3	3.7	1.2
2	2.3	5.8	808	105	319	161	151	174	60	8.8	3.5	1.2
3	2.3	5.3	626	100	259	138	175	193	50	8.4	3.4	1.3
4	2.3	4.9	1,380	99	216	121	183	200	40	8.0	3.2	1.3
5	2.1	5.2	1,160	95	186	107	184	188	38	7.6	3.1	1.2
6	2.0	12	710	92	159	96	180	183	34	7.4	3.1	1.2
7	2.0	13	610	92	138	88	192	182	32	7.4	3.2	1.2
8	2.1	11	526	85	121	80	185	169	30	7.4	3.1	1.2
9	2.1	9.6	437	82	106	85	168	161	30	7.2	3.0	1.2
10	2.0	20	940	89	95	97	153	144	28	7.0	2.9	1.4
11	2.0	50	720	147	86	81	145	120	26	6.8	2.7	2.5
12	2.4	36	759	201	78	76	132	110	24	6.5	2.6	2.9
13	3.5	126	883	263	81	72	145	100	24	6.4	2.6	2.2
14	3.4	683	682	258	75	78	151	95	22	6.2	2.4	1.8
15	3.1	1,020	414	215	74	149	141	90	22	5.9	2.2	1.5
16	2.8	777	290	180	78	762	154	85	20	5.9	2.1	1.3
17	2.7	339	219	149	221	854	150	75	19	5.6	2.0	1.5
18	2.6	206	170	127	329	727	149	70	18	5.4	1.9	2.1
19	2.5	818	139	177	257	468	151	60	17	5.4	1.8	2.2
20	6.7	663	123	671	205	478	157	55	17	5.3	1.7	1.8
21	18	589	104	545	172	426	172	48	16	5.3	1.6	1.6
22	24	370	89	349	152	369	212	44	16	5.1	1.6	1.4
23	39	257	92	264	139	472	214	38	15	5.0	1.6	1.3
24	24	192	87	231	131	407	213	36	14	4.8	1.5	1.2
25	18	159	96	300	127	322	227	34	14	4.8	1.5	1.2
26	14	196	95	1,020	118	261	243	32	13	4.8	1.5	1.1
27	12	170	88	1,580	109	215	237	30	12	4.5	1.5	1.1
28	9.8	155	82	2,090	109	188	211	30	11	4.4	1.5	1.1
29	8.5	140	84	1,680	------	166	190	30	11	4.1	1.4	1.2
30	7.5	131	88	884	------	152	170	34	9.9	4.0	1.3	2.2
31	6.5	------	83	578	------	140	------	36	------	3.8	1.3	------
TOTAL	234.4	7,169.8	12,923	12,852	4,559	7,993	5,272	3,008	716.9	188.5	70.5	45.6
MEAN	7.56	239	417	415	163	258	176	97.0	23.9	6.08	2.27	1.52
MAX	39	1,020	1,380	2,090	419	854	243	200	60	9.3	3.7	2.9
MIN	2.0	4.9	82	82	74	72	132	30	9.9	3.8	1.3	1.1
CFSM	.24	7.66	13.4	13.3	5.22	8.26	5.63	3.11	.77	.19	.07	.05
IN.	.28	8.55	15.4	15.3	5.43	9.53	6.28	3.59	.85	.22	.08	.05
AC-FT	465	14,220	25,630	25,490	9,040	15,850	10,460	5,970	1,420	374	140	90

CAL YR 1966: TOTAL 67,281.8 MEAN 184 MAX 3,600 MIN 1.1 CFSM 5.91 IN 80.20 AC-FT 133,500
WAT YR 1967: TOTAL 55,032.7 MEAN 151 MAX 2,090 MIN 1.1 CFSM 4.83 IN 65.60 AC-FT 109,200

Peak discharge (base, 1,200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2330	8.90	1,230	12- 4	1830	9.97	1,830
11-19	1400	9.24	1,400	1-28	0400	11.53	2,970

Note.--No gage-height record May 11 to June 22.

14-3247. South Fork Coquille River near Illahe, Oreg.

Location.--Lat 42°43'30", long 124°00'40", in NW¼ sec.16, T.33 S., R.11 W., on left bank 1.5 miles downstream from Lockhart Creek and 7 miles north of Illahe.

Drainage area.--40.6 sq mi at measuring site 1.2 miles upstream from gage.

Records available.--October 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,871.04 ft above mean sea level (levels by Pacific Power & Light Co.). Prior to Aug. 31, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, 191 cfs (138,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,750 cfs Jan. 28 (gage height, 8.61 ft); minimum, 1.2 cfs Sept. 27-29.

1956-67: Maximum discharge, 12,000 cfs Dec. 22, 1964 (gage height, 11.80 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement at gage height 9.54 ft; minimum, 1.2 cfs Sept. 27-29, 1967.

Flood of Dec. 21, 1955, reached a stage of about 10.8 ft (discharge, about 8,600 cfs).

Remarks.--Records good except those for period of shifting control, which are fair. No regulation or diversion above station. Records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	3.0	7.8	475	124	594	208	175	213	54	14	6.4	2.5
2	3.0	7.5	1,110	126	419	208	193	233	82	14	5.2	2.5
3	3.0	6.9	895	121	325	171	228	259	63	13	5.8	2.5
4	2.8	6.6	1,610	121	268	147	238	274	56	13	5.5	2.5
5	2.8	6.9	1,390	117	235	126	243	268	51	12	5.2	2.3
6	2.5	12	965	113	208	114	240	271	46	12	5.5	2.3
7	2.5	14	825	114	178	102	259	283	43	12	5.5	2.3
8	2.5	12	702	107	153	95	250	271	41	12	6.1	2.3
9	2.5	10	594	105	135	99	230	256	39	12	5.5	2.3
10	2.5	18	1,210	116	119	113	208	228	37	11	5.2	2.8
11	2.5	58	955	180	108	95	193	193	36	11	5.0	4.1
12	3.3	45	1,010	240	98	89	173	175	34	10	5.0	4.4
13	5.5	195	1,130	289	101	86	193	157	32	10	4.7	4.1
14	4.7	970	900	289	95	93	203	147	30	9.7	4.7	3.3
15	4.4	1,340	542	243	93	180	183	141	28	9.3	4.4	2.8
16	3.8	1,030	355	210	95	965	200	131	27	8.9	4.1	2.8
17	3.6	454	268	175	248	1,120	193	116	26	8.6	3.8	3.0
18	3.3	265	215	151	381	975	188	101	24	8.3	3.8	3.6
19	3.0	1,030	175	198	298	646	190	89	23	8.3	3.6	3.6
20	7.5	920	157	880	240	686	198	80	22	8.1	3.6	3.3
21	20	830	131	765	205	598	215	73	22	8.1	3.3	3.0
22	25	507	113	458	180	492	259	67	22	8.1	3.3	2.5
23	46	328	119	328	167	690	265	61	21	8.1	3.0	2.3
24	27	245	117	286	159	574	268	56	20	7.8	3.0	2.3
25	19	200	124	391	155	423	289	53	19	7.5	2.8	2.0
26	15	235	124	1,420	143	331	310	49	18	7.5	3.0	2.0
27	13	213	114	1,910	133	274	304	46	17	7.2	2.8	2.0
28	11	195	107	2,790	135	243	268	47	17	7.2	2.8	2.0
29	10	178	107	2,100	------	215	243	47	16	6.9	2.8	2.0
30	8.9	167	110	1,180	------	198	223	51	15	6.6	2.5	3.6
31	8.3	------	105	800	------	178	------	55	------	6.6	2.5	------
TOTAL	271.9	9,506.7	16,754	16,447	5,668	10,534	6,822	4,491	981	298.8	130.4	83.0
MEAN	8.77	317	540	531	202	340	227	145	32.7	9.64	4.21	2.77
MAX	46	1,340	1,610	2,790	594	1,120	310	283	82	14	6.4	4.4
MIN	2.5	6.6	105	105	93	86	173	46	15	6.6	2.5	2.0
CFSM	.22	7.81	13.3	13.1	4.99	8.37	5.60	3.57	.81	.24	.10	.07
IN.	.25	8.71	15.3	15.1	5.19	9.65	6.25	4.11	.90	.27	.12	.08
AC-FT	539	18,860	33,230	32,620	11,240	20,890	13,530	8,910	1,950	593	259	165

CAL YR 1966: TOTAL 81,886.6 MEAN 224 MAX 3,770 MIN 1.7 CFSM 5.53 IN 75.01 AC-FT 162,400
WAT YR 1967: TOTAL 71,987.8 MEAN 197 MAX 2,790 MIN 2.0 CFSM 4.86 IN 65.94 AC-FT 142,800

Peak discharge (base, 1,700 cfs).--Dec. 4 (1600 hrs) 2,060 cfs (7.03 ft); Jan. 28 (0430 hrs) 3,750 cfs (8.61 ft).

Note.--Shifting-control method used June 28 to Sept. 30.

14-3249. South Fork Coquille River near Powers, Oreg.

Location.--Lat 42°47'05", long 124°02'25", in SW¼SW¼ sec.18, T.32 S., R.11 W., on right bank 0.8 mile upstream from Hall Creek and 7 miles southeast of Powers.

Drainage area.--93.2 sq mi.

Records available.--October 1956 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 585.32 ft above mean sea level (levels by Pacific Power & Light Co.). Prior to Aug. 31, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, 516 cfs (373,600 acre-ft per year).

Extremes.--Maximum discharge during year, 10,300 cfs Jan. 28 (gage height, 13.23 ft); minimum, 12 cfs Oct. 12, Sept. 26-29.

1956-67: Maximum discharge, 29,600 cfs Dec. 22, 1964 (gage height, 23.00 ft, from floodmarks), from rating curve extended above 9,300 cfs on basis of slope-area measurement of peak flow; minimum, 6.5 cfs Oct. 3-5, 1960.

Remarks.--Records excellent except those for period of shifting control, which are fair. No regulation or diversion above station. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	28	1,110	306	1,560	630	584	544	142	47	23	14
2	15	26	2,640	300	1,090	590	571	565	188	45	23	14
3	15	25	1,890	280	816	500	601	608	152	43	22	14
4	14	24	4,920	300	660	430	597	624	135	42	21	14
5	14	24	4,280	318	565	382	607	608	123	40	21	14
6	14	36	2,560	318	485	346	609	628	114	39	21	14
7	14	42	2,480	354	422	314	640	687	107	39	21	14
8	14	36	2,110	312	374	293	600	684	103	38	21	14
9	13	32	1,640	312	334	318	536	694	99	38	21	13
10	13	36	3,300	324	300	430	489	639	95	37	20	15
11	13	135	2,350	396	268	398	462	566	91	36	20	22
12	15	181	2,730	469	244	370	415	504	88	35	19	20
13	23	829	3,550	511	279	350	537	442	84	34	19	18
14	20	3,140	2,430	518	275	455	659	420	81	33	19	16
15	19	4,050	1,340	448	386	870	600	427	77	33	18	15
16	17	2,580	900	390	406	2,810	684	420	74	32	18	14
17	16	812	738	330	762	2,930	705	378	72	32	17	16
18	15	331	560	300	1,040	2,410	637	327	70	30	17	19
19	15	3,050	462	583	798	1,500	578	290	67	30	17	18
20	71	2,240	384	3,000	636	1,750	554	262	65	29	16	16
21	122	2,230	336	2,350	550	1,370	550	235	65	29	16	15
22	178	1,060	285	1,330	495	1,150	603	213	64	29	16	15
23	155	526	336	1,130	455	1,640	609	193	63	29	16	14
24	94	291	372	1,030	430	1,390	654	175	60	28	15	13
25	65	184	390	1,780	422	1,040	687	162	58	28	15	13
26	51	205	372	6,300	394	808	833	151	56	28	15	13
27	45	164	324	6,280	370	660	856	141	54	27	15	13
28	40	143	295	7,110	366	596	736	142	52	25	15	13
29	36	126	290	5,380	------	548	641	142	51	24	14	13
30	32	134	300	2,960	------	604	581	148	49	24	15	18
31	30	------	285	2,110	------	618	------	156	------	24	14	------
TOTAL	1,213	22,720	45,959	47,829	15,182	28,500	18,415	12,175	2,599	1,027	560	454
MEAN	39.1	757	1,483	1,543	542	919	614	393	86.6	33.1	18.1	15.1
MAX	178	4,050	4,920	7,110	1,560	2,930	856	694	188	47	23	22
MIN	13	24	285	280	244	293	415	141	49	24	14	13
CFSM	.42	8.13	15.9	16.6	5.82	9.86	6.59	4.21	.93	.36	.19	.16
IN.	.48	9.07	18.3	19.1	6.06	11.4	7.35	4.86	1.04	.41	.22	.18
AC-FT	2,410	45,060	91,160	94,870	30,110	56,530	36,530	24,150	5,160	2,040	1,110	901

CAL YR 1966: TOTAL 227,884 MEAN 624 MAX 11,000 MIN 13 CFSM 6.70 IN 90.93 AC-FT 452,000
WAT YR 1967: TOTAL 196,633 MEAN 539 MAX 7,110 MIN 13 CFSM 5.78 IN 78.46 AC-FT 390,000

Peak discharge (base, 4,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2230	9.56	4,510	12- 4	1630	11.23	7,070
11-19	1230	10.25	5,480	1-28	0200	13.23	10,300

Note.--Shifting-control method used Dec. 4 to Jan. 25.

14-3250. South Fork Coquille River at Powers, Oreg.

Location.--Lat 42°53'30", long 124°04'10", in SE¼ sec.12, T.31 S., R.12 W., on left bank 0.7 mile downstream from highway bridge at Powers and 0.8 mile upstream from Woodward Creek.

Drainage area.--169 sq mi.

Records available.--September 1916 to September 1926, October 1928 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 197.42 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Nov. 17, 1938, staff or wire-weight gages at various sites within 1 mile of present site at different datums. Nov. 18, 1938, to Mar. 31, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--47 years (1916-26, 1929-67), 782 cfs (566,100 acre-ft per year).

Extremes.--Maximum discharge during year, 14,100 cfs Jan. 28 (gage height, 12.63 ft); minimum, 14 cfs Sept. 27, 28.

1916-26, 1928-67: Maximum discharge, 48,900 cfs Dec. 22, 1964 (gage height, 26.51 ft, from floodmarks), from rating curve extended above 19,000 cfs on basis of contracted-opening measurement at gage height 18.14 ft and slope-area measurement of peak flow; minimum, 12 cfs Sept. 22-25, 27-30, 1939, Oct. 5, 1961.

Remarks.--Records excellent except those for period of backwater from moss, which are good. No regulation. Small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	22	39	1,810	541	2,500	1,040	1,070	922	232	65	33	21
2	22	38	4,300	537	1,940	1,040	994	916	311	63	32	20
3	22	36	3,200	510	1,600	928	1,000	940	250	60	31	20
4	21	34	7,390	555	1,360	814	970	940	217	58	30	19
5	20	34	7,060	712	1,200	718	976	898	195	55	30	19
6	20	49	4,090	754	1,040	640	976	892	174	54	30	19
7	20	61	3,710	796	922	585	1,010	928	160	54	30	19
8	20	53	3,560	685	814	541	964	922	149	53	29	18
9	20	46	2,620	635	724	565	880	958	139	53	30	18
10	19	57	4,800	635	655	1,060	820	952	135	52	29	19
11	19	143	3,600	736	605	976	832	880	135	50	28	27
12	20	217	3,960	826	555	850	748	796	134	49	28	26
13	29	746	5,220	844	645	766	958	700	130	49	27	23
14	30	3,970	3,920	850	742	874	1,310	655	125	47	25	21
15	27	5,420	2,330	742	1,270	1,480	1,230	640	120	46	25	19
16	25	4,010	1,620	670	1,220	3,990	1,440	625	114	45	24	18
17	23	1,590	1,250	590	1,530	4,560	1,580	570	111	43	24	19
18	22	949	1,010	532	1,780	4,030	1,320	510	105	42	24	22
19	21	4,590	826	832	1,420	2,590	1,130	456	100	42	23	21
20	39	3,710	742	4,950	1,130	2,750	1,010	411	96	41	23	20
21	187	4,010	640	4,490	952	2,270	958	375	98	41	23	19
22	194	2,320	565	2,700	850	1,880	1,010	343	96	41	22	18
23	218	1,460	610	2,500	784	2,700	982	311	94	41	22	17
24	135	1,090	685	2,120	736	2,420	1,040	279	89	40	21	17
25	92	869	690	3,390	724	1,760	1,110	256	85	40	21	16
26	72	871	655	8,590	675	1,400	1,340	238	82	39	21	16
27	62	766	630	8,180	635	1,130	1,520	223	77	38	22	15
28	55	671	570	10,600	620	1,030	1,320	223	74	37	21	15
29	49	612	537	8,130	------	994	1,130	229	71	36	20	15
30	45	601	523	4,720	------	1,120	1,010	241	68	35	21	18
31	42	------	492	3,380	------	1,160	------	262	------	34	21	------
TOTAL	1,612	39,062	73,655	76,772	29,628	48,661	32,638	18,491	3,966	1,443	790	574
MEAN	52.0	1,302	2,376	2,477	1,058	1,570	1,088	596	132	46.5	25.5	19.1
MAX	218	5,420	7,390	10,600	2,500	4,560	1,580	958	311	65	33	27
MIN	19	34	492	510	555	541	748	223	68	34	20	15
CFSM	.31	7.70	14.1	14.7	6.26	9.29	6.44	3.53	.78	.28	.15	.11
IN.	.35	8.60	16.2	16.9	6.52	10.7	7.18	4.07	.87	.32	.17	.13
AC-FT	3,200	77,480	146,100	152,300	58,770	96,520	64,740	36,680	7,870	2,860	1,570	1,140

CAL YR 1966: TOTAL 365,906 MEAN 1,002 MAX 17,900 MIN 17 CFSM 5.93 IN 80.52 AC-FT 725,800
WAT YR 1967: TOTAL 327,292 MEAN 897 MAX 10,600 MIN 15 CFSM 5.31 IN 72.02 AC-FT 649,200

Peak discharge (base, 9,300 cfs).--Jan. 28 (0400 hrs) 14,100 cfs (12.63 ft).

Note.--Backwater from moss, Aug. 14 to Sept. 30.

14-3268. North Fork Coquille River near Fairview, Oreg.

Location.--Lat 43°10'45", long 124°05'10", in NE¼ sec.2, T.28 S., R.12 W., on right bank 0.7 mile downstream from Lost Creek and 2.6 miles south of Fairview.

Drainage area.--74.0 sq mi.

Records available.--October 1963 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 70 ft (from topographic map). Prior to Aug. 16, 1967, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 3,330 cfs Dec. 4 (gage height, 12.60 ft, from floodmark); minimum, 2.0 cfs Sept. 9, 10.
1963-67: Maximum discharge, 4,660 cfs Jan. 28, 1965 (gage height, 17.06 ft); minimum, 2.0 cfs Sept. 9, 10, 1967.

Remarks.--Records good except those above 1,000 cfs, which are fair. No regulation. Several diversions for irrigation by pumping upstream.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.9	22	444	304	901	260	399	385	100	19	7.7	3.0
2	6.9	21	714	315	730	300	343	340	110	18	7.3	3.3
3	6.9	19	730	357	602	315	308	298	75	17	6.9	3.3
4	6.9	17	1,580	526	498	273	273	262	65	16	6.5	3.3
5	6.9	16	1,850	802	434	242	276	236	55	16	6.5	3.3
6	6.9	25	1,200	744	385	212	280	210	50	16	6.1	3.0
7	6.9	34	1,050	714	340	198	252	192	48	16	6.1	2.5
8	6.9	29	1,020	574	298	188	227	178	48	16	6.1	2.3
9	6.9	24	820	472	259	602	227	195	48	16	5.7	2.0
10	6.9	164	829	420	239	614	218	208	46	15	5.4	2.0
11	5.7	550	748	420	218	566	233	298	44	15	5.4	7.0
12	6.5	424	775	392	205	469	212	252	42	15	5.4	9.2
13	9.7	545	860	674	270	416	315	212	40	14	5.4	7.5
14	12	1,500	942	690	336	399	566	188	40	14	5.4	5.2
15	11	1,610	698	546	666	455	626	170	37	14	5.4	4.1
16	9.7	1,510	558	469	770	574	678	152	36	13	5.5	3.9
17	8.5	694	462	402	1,480	634	811	132	34	12	5.4	4.1
18	8.1	452	388	357	1,170	1,020	744	120	33	12	5.4	4.8
19	7.3	1,030	329	354	811	775	610	116	33	11	5.0	4.8
20	9.3	926	308	1,130	610	622	506	108	33	11	4.8	4.8
21	39	978	270	2,100	480	498	434	100	34	10	4.6	4.2
22	221	722	236	1,480	413	427	382	95	34	10	3.7	3.7
23	266	530	245	1,150	354	444	343	90	35	10	3.6	3.6
24	95	406	298	922	312	476	294	85	30	10	3.6	3.2
25	52	343	312	958	298	434	290	80	30	10	3.0	2.5
26	38	354	318	1,400	252	392	490	80	29	10	3.0	2.4
27	39	287	280	1,700	240	350	590	75	28	10	3.0	2.4
28	35	252	252	2,220	220	336	483	80	26	9.7	2.8	2.4
29	30	224	242	1,770	------	392	455	90	24	8.5	3.2	2.9
30	25	224	242	1,320	------	476	438	110	22	7.7	2.8	6.3
31	24	------	218	1,150	------	455	------	120	------	7.7	3.8	------
TOTAL	1,020.8	13,932	19,218	26,832	13,791	13,814	12,303	5,257	1,309	399.6	154.5	117.0
MEAN	32.9	464	620	866	493	446	410	170	43.6	12.9	4.98	3.90
MAX	266	1,610	1,850	2,220	1,480	1,020	811	385	110	19	7.7	9.2
MIN	5.7	16	218	304	205	188	212	75	22	7.7	2.8	2.0
CFSM	.44	6.28	8.38	11.7	6.66	6.02	5.54	2.29	.59	.17	.07	.05
IN.	.51	7.00	9.66	13.5	6.93	6.94	6.18	2.64	.66	.20	.08	.06
AC-FT	2,020	27,630	38,120	53,220	27,350	27,400	24,400	10,430	2,600	793	306	232

CAL YR 1966: TOTAL 106,031.4 MEAN 290 MAX 3,680 MIN 2.4 CFSM 3.93 IN 53.29 AC-FT 210,300
WAT YR 1967: TOTAL 108,147.9 MEAN 296 MAX 2,220 MIN 2.0 CFSM 4.00 IN 54.35 AC-FT 214,500

Peak discharge (base, 3,000 cfs).--Dec. 4 (2300 hrs) 3,330 cfs (12.6 ft).

14-3270. North Fork Coquille River near Myrtle Point, Oreg.

Location.--Lat 43°04'15", long 124°06'20", in SE¼ sec.10, T.29 S., R.12 W., near center of span on downstream side of highway bridge 1.6 miles northeast of Myrtle Point, and about 4 miles upstream from mouth.

Drainage area.--282 sq mi.

Records available.--December 1928 to September 1946, October 1963 to September 1967.

Gage.--Wire-weight gage read once daily and crest-stage gage. Datum of gage is 2.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 1, 1930, chain gage at present site and different datum. Oct. 1, 1930, to Sept. 30, 1946, graphic water-stage recorder at site 4.5 miles upstream at datum 8.15 ft higher.

Average discharge.--21 years (1929-46, 1963-67), 954 cfs (690,700 acre-ft per year).

Extremes.--Maximum discharge during year, 8,990 cfs Dec. 6 (gage height, 31.71 ft, from floodmark); minimum observed, 5.9 cfs Sept. 8. 1928-46, 1963-67: Maximum discharge, 38,400 cfs Dec. 23, 1964 (gage height, 37.67 ft); minimum observed, 4.5 cfs Aug. 20, 1966. Maximum stage known, 41.2 ft sometime during winter of 1909-10. Flood of Dec. 26, 1955, reached a stage of 37.0 ft (discharge, 20,000 cfs).

Remarks.--Records fair. No regulation. Small diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	21	88	950	876	4,050	979	1,470	1,220	342	99	29	9.0
2	20	80	2,400	973	2,830	1,000	1,070	1,170	456	94	27	9.0
3	20	73	3,400	924	2,120	1,100	1,030	1,070	346	89	26	8.4
4	21	67	4,600	1,150	1,720	966	958	956	305	83	23	9.0
5	21	62	7,000	1,940	1,490	864	980	869	279	79	22	7.8
6	21	112	5,500	2,000	1,210	787	938	785	256	75	22	8.4
7	20	214	4,940	2,130	1,070	720	883	699	244	76	21	7.6
8	21	146	5,550	1,620	1,040	669	806	665	235	75	22	5.9
9	22	117	3,930	1,500	934	689	762	658	233	74	20	7.3
10	22	199	3,370	1,360	847	1,770	749	616	222	71	19	9.9
11	20	1,400	2,950	1,340	781	1,920	889	883	216	67	19	15
12	21	1,980	2,840	1,270	727	1,580	778	867	206	65	18	80
13	26	2,120	2,670	1,490	727	1,380	858	746	198	63	19	50
14	59	3,320	3,810	2,200	1,120	1,240	1,650	658	191	61	17	31
15	49	5,540	2,740	1,710	1,740	1,410	1,960	603	185	56	17	22
16	35	6,440	1,950	1,520	2,270	1,920	1,840	552	170	52	16	18
17	30	4,120	1,620	1,360	3,500	2,570	2,670	514	160	51	15	18
18	26	2,230	1,220	1,060	4,300	3,610	2,350	471	155	48	13	19
19	24	2,520	1,130	1,080	2,970	3,070	1,910	443	145	46	14	22
20	26	4,600	1,070	1,970	2,130	2,250	1,590	418	147	43	12	19
21	141	4,070	958	5,000	1,600	1,800	1,390	396	149	42	12	18
22	256	3,280	858	6,650	1,360	1,480	1,260	374	163	42	11	18
23	964	2,170	844	4,920	1,200	1,580	1,160	354	157	42	11	17
24	632	1,580	914	3,800	1,070	1,800	1,190	335	136	44	10	17
25	270	1,140	913	3,320	938	1,740	1,030	316	136	40	9.9	15
26	185	1,100	916	5,140	889	1,360	1,490	308	131	41	9.3	14
27	191	1,100	805	6,570	798	1,210	2,070	292	124	39	9.3	12
28	159	1,000	822	7,700	735	1,110	1,780	291	119	37	9.0	12
29	127	1,000	783	7,400		1,240	1,520	338	113	34	9.6	12
30	108	950	792	6,240	- - - - -	1,460	1,480	489	105	32	8.4	15
31	98	- - - - -	707	5,400	- - - - -	1,510	- - - - -	464	- - - - -	32	8.4	- - - - -
Total	3,656	52,818	72,952	91,613	46,166	46,784	40,511	18,820	6,024	1,792	498.9	526.3
Mean	118	1,761	2,353	2,955	1,649	1,509	1,350	607	201	57.8	16.1	17.5
Max	964	6,440	7,000	7,700	4,300	3,610	2,670	1,220	456	99	29	80
Min	20	62	707	876	727	669	749	291	105	32	8.4	5.9
Cfsm	0.418	6.24	8.34	10.5	5.85	5.35	4.79	2.15	0.713	0.205	0.057	0.062
In.	0.48	6.97	9.62	12.08	6.09	6.17	5.34	2.48	0.79	0.24	0.07	0.07
Ac-ft	7,250	104,800	144,700	181,700	91,570	92,790	80,350	37,330	11,950	3,550	990	1,040

Cal yr 1966: Total	409,010.8	Mean	1,121	Max	19,700	Min	4.5	Cfsm	3.98	In.	53.94	Ac-ft	811,300
Wtr yr 1967: Total	382,161.2	Mean	1,047	Max	7,700	Min	5.9	Cfsm	3.71	In.	50.40	Ac-ft	758,000

Peak discharge (base, 9,000 cfs).--No peak above base.

14-3280. Rogue River above Prospect, Oreg.

Location (revised).--Lat 42°46'30", long 122°29'55", in SE¼NE¼ sec.19, T.32 S., R.3 E., on left bank 1.4 miles upstream from Pacific Power & Light Co. diversion dam, 1.8 miles northwest of Prospect, and at mile 173.4.

Drainage area.--312 sq mi.

Records available.--January 1908 to February 1912, October 1923 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Prior to October 1925, published as "near Prospect."

Gage.--Digital water-stage recorder. Altitude of gage is 2,620 ft (from river-profile map). Prior to Feb. 17, 1912, staff gage at several sites within a few hundred feet upstream at various datums. October 1923 to September 30, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--47 years (1908-11, 1923-67), 809 cfs (585,700 acre-ft per year).

Extremes.--Maximum discharge during year, 2,900 cfs May 22 (gage height, 4.27 ft); minimum, 342 cfs Oct. 10, 11, Sept. 27-29.

1908-12, 1923-67: Maximum discharge, 22,400 cfs Dec. 22, 1964 (gage height, 11.55 ft, from floodmark), from rating curve extended above 9,000 cfs on basis of slope-area measurement at 16,600 cfs; minimum observed, 200 cfs Nov. 20, 1931.

Remarks.--Records excellent. No regulation or diversion above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	350	360	1,180	596	1,310	772	678	591	1,270	673	422	365
2	350	355	1,160	568	1,150	775	668	620	1,280	651	416	365
3	350	355	1,010	573	1,040	726	681	692	1,220	631	410	365
4	350	355	1,140	591	985	691	701	797	1,260	607	410	365
5	350	360	1,250	588	958	679	730	911	1,320	588	410	365
6	346	472	990	568	928	670	711	997	1,300	572	405	365
7	350	405	904	543	911	676	734	1,270	1,250	561	405	365
8	346	380	818	542	891	680	787	1,670	1,220	550	405	360
9	346	375	759	540	867	698	784	2,190	1,180	541	400	360
10	346	460	882	545	845	713	782	2,010	1,140	530	405	360
11	346	950	930	563	823	674	760	1,520	1,100	520	400	375
12	360	834	1,190	614	810	636	781	1,290	1,070	513	395	380
13	375	697	1,540	718	827	626	803	1,200	1,030	505	395	365
14	370	1,010	1,590	800	801	599	765	1,260	1,000	497	390	360
15	365	1,980	1,270	780	784	586	714	1,520	1,010	491	390	360
16	355	2,020	1,160	794	755	793	692	1,930	1,030	484	385	355
17	355	1,130	1,110	742	780	918	691	2,400	1,040	477	385	360
18	350	864	1,060	708	848	890	663	2,460	1,040	470	380	370
19	350	854	1,010	698	801	825	636	2,400	1,050	465	380	360
20	390	1,490	984	750	760	872	622	2,410	1,160	460	380	360
21	449	1,230	924	705	740	918	607	2,580	1,020	454	375	355
22	600	979	864	660	724	974	610	2,630	929	454	375	355
23	638	830	820	624	715	1,240	606	2,510	861	449	375	350
24	478	745	774	610	713	1,060	604	2,190	822	444	375	350
25	422	694	762	596	719	942	637	1,880	803	438	370	350
26	400	676	708	605	694	869	626	1,710	783	438	370	346
27	385	639	663	1,120	684	824	626	1,640	755	432	375	346
28	375	756	646	2,220	693	800	608	1,620	724	427	375	346
29	370	1,020	645	2,460	------	768	603	1,660	706	427	370	346
30	365	904	619	1,990	------	744	586	1,500	692	422	365	355
31	360	------	592	1,570	------	704	------	1,350	------	419	365	------
TOTAL	11,942	24,179	29,954	25,981	23,556	24,342	20,496	51,408	31,065	15,590	12,058	10,779
MEAN	385	806	966	838	841	785	683	1,658	1,036	503	389	359
MAX	638	2,020	1,590	2,460	1,310	1,240	803	2,630	1,320	673	422	380
MIN	346	355	592	540	684	586	586	591	692	419	365	346
CFSM	1.23	2.58	3.10	2.69	2.70	2.52	2.19	5.32	3.32	1.61	1.25	1.15
IN.	1.42	2.88	3.57	3.10	2.81	2.90	2.44	6.13	3.70	1.86	1.44	1.28
AC-FT	23,690	47,960	59,410	51,530	46,720	48,280	40,650	102,000	61,620	30,920	23,920	21,380

CAL YR 1966: TOTAL 291,850 MEAN 800 MAX 2,720 MIN 346 CFSM 2.56 IN 34.79 AC-FT 578,900
WAT YR 1967: TOTAL 281,350 MEAN 771 MAX 2,630 MIN 346 CFSM 2.47 IN 33.54 AC-FT 558,000

Peak discharge (base, 2,700 cfs).--May 22 (0130 P.s.t.) 2,900 cfs (4.27 ft).

14-3320. South Fork Rogue River near Prospect, Oreg.

Location (revised).--Lat 42°42'30", long 122°23'30", in SE¼SW¼ sec.7, T.33 S., R.4 E., on left bank 0.1 mile downstream from South Fork dam and intake of South Fork power canal, 0.11 mile downstream from Imnaha Creek, 5.6 miles southeast of Prospect, and at mile 10.4.

Drainage area.--83.8 sq mi. Area at site above Imnaha Creek used October 1931 to September 1949, 61.3 sq mi, and Imnaha Creek near Prospect, 22.2 sq mi.

Records available.--April 1924 to September 1931, October 1949 to September 1967. Equivalent records for period October 1931 to September 1949 may be obtained from combined flow of South Fork Rogue River above Imnaha Creek, near Prospect and Imnaha Creek near Prospect.

Gage.--Digital water-stage recorder. Altitude of gage is 3,300 ft (from topographic map). Apr. 1, 1924, to Sept. 30, 1931, Oct. 1, 1949 to Sept. 9, 1965, graphic water-stage recorder at site 1,000 ft upstream at different datum.

Average discharge.--43 years (1924-67), 176 cfs (127,400 acre-ft per year).

Extremes.--Maximum discharge during year, 972 cfs May 21; minimum daily, 61 cfs Oct. 3-8, 10, 18, 19.

1924-67: Maximum discharge, 7,010 cfs Dec. 22, 1964 (no flow in canal), from rating curve extended above 410 cfs on basis of measurement of flow over dam of 3,180 cfs; minimum daily, about 35 cfs in September 1931.

Remarks.--Records good below 400 cfs and fair above. All records given herein include flow in South Fork power canal (completed in March 1932) which diverts 1,500 ft above station and returns water to Rogue River above South Fork Rogue River; practically no storage above diversion dam.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.
1	62	62	179	114	323	173	165	123	417	186	105	87
2	62	62	182	111	291	170	162	125	412	178	106	86
3	61	62	159	112	268	165	134	130	370	170	105	86
4	61	62	165	116	248	162	145	139	367	164	105	85
5	61	63	198	114	234	160	146	152	386	158	104	85
6	61	75	168	111	224	157	144	164	392	154	104	84
7	61	67	156	108	213	156	146	196	375	150	105	83
8	61	65	143	107	202	155	152	264	372	147	104	82
9	62	66	139	107	195	157	150	430	364	145	103	82
10	61	83	152	107	190	159	153	438	355	141	104	83
11	62	145	151	107	185	154	151	357	344	138	104	88
12	64	134	153	102	179	151	149	321	332	136	104	85
13	65	122	173	130	182	148	153	311	316	133	103	83
14	64	104	196	134	175	143	149	315	304	131	103	81
15	63	136	173	128	171	140	146	364	316	129	103	80
16	62	200	167	134	170	156	145	471	331	127	102	80
17	62	141	159	130	184	164	146	575	341	125	101	81
18	61	117	154	128	212	166	142	638	347	122	100	83
19	61	110	150	130	191	161	137	649	360	120	100	80
20	69	158	149	169	181	166	134	692	426	119	98	79
21	72	150	144	158	177	170	133	767	339	117	97	78
22	109	129	140	146	173	180	132	795	293	116	96	77
23	98	116	136	140	171	198	131	753	268	115	96	76
24	79	108	133	137	168	191	130	665	253	113	95	75
25	70	102	133	133	168	188	132	572	244	111	93	74
26	67	103	127	158	161	184	128	530	234	110	92	73
27	66	99	123	289	158	165	129	503	222	109	92	72
28	65	125	118	535	158	188	126	519	210	108	90	72
29	64	167	120	511	- - - - -	184	125	572	202	107	89	71
30	64	141	117	422	- - - -	180	123	478	194	107	88	73
31	63	- - - - -	115	371	- - - - -	172	- - - - -	420	- - - - -	106	87	- - - - -
Total	2,063	3,274	4,672	5,399	5,552	5,163	4,238	13,428	9,686	4,092	3,078	2,404
Mean	66.5	109	151	174	198	167	141	433	323	132	99.3	80.1
Max	109	200	198	535	323	198	165	795	417	186	106	88
Min	61	62	115	102	158	140	123	123	194	106	87	71
Ac-ft	4,090	6,490	9,270	10,710	11,010	10,240	8,410	26,630	19,210	8,120	6,110	4,770

Cal yr 1966: Total 53,111 Mean 146 Max 697 Min 61 Ac-ft 105,300
Wtr yr 1967: Total 63,049 Mean 173 Max 795 Min 61 Ac-ft 125,100

14-3335. Red Blanket Creek near Prospect, Oreg.

Location.--Lat 42°46'40", long 122°25'35", in NW¼NE¼ sec.23, T.32 S., R.3 E., on right bank 1.8 miles downstream from Lick Creek, 3.7 miles northeast of Prospect, and at mile 4.8.

Drainage area.--45.5 sq mi.

Records available.--May 1925 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 2,780 ft (from river-profile map). Prior to Sept. 7, 1949, staff gage at several sites within 2.5 miles of present site at various datums. Sept. 7, 1949, to Sept. 30, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--42 years, 115 cfs (83,260 acre-ft per year).

Extremes.--Maximum discharge during year, 539 cfs Jan. 29 (gage height, 3.80 ft, from floodmark); minimum, 48 cfs Oct. 9-11, 16-20.

1925-67: Maximum discharge, 3,190 cfs Dec. 22, 1964 (gage height, 7.85 ft), from rating curve extended above 1,500 cfs; minimum observed, 34 cfs Sept. 3, 4, 25, Oct. 9, 16, 1931.

Remarks.--Records good. One diversion of about 5 cfs above station for irrigation below.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	54	120	84	230	105	96	84	185	146	79	58
2	55	53	116	83	180	109	93	84	185	137	78	57
3	54	53	103	82	160	105	92	84	185	131	77	58
4	54	52	107	82	150	103	94	84	181	125	76	59
5	53	55	116	82	140	100	94	88	185	119	76	58
6	53	69	98	80	135	98	96	92	188	116	75	58
7	54	59	94	80	130	96	96	106	188	111	73	58
8	52	55	87	80	125	94	101	143	188	108	68	58
9	49	56	84	78	125	94	99	199	188	106	67	57
10	49	75	98	78	120	98	100	212	188	103	68	58
11	49	110	100	79	120	96	99	193	185	98	67	63
12	51	94	116	80	120	93	96	183	181	96	68	62
13	51	84	152	87	120	91	96	171	174	93	67	60
14	51	83	161	92	120	89	96	164	170	91	67	58
15	49	151	137	91	115	87	94	161	177	91	67	57
16	49	173	128	93	110	94	91	184	188	88	66	56
17	49	109	130	91	110	103	93	222	196	88	66	56
18	48	89	129	88	120	103	93	244	207	86	66	65
19	48	87	123	90	120	101	90	248	219	86	65	64
20	57	124	118	113	110	105	87	252	240	86	65	63
21	54	104	111	109	109	108	86	274	223	86	63	59
22	87	91	105	101	106	111	86	297	200	88	62	57
23	74	83	101	96	103	125	85	301	185	86	62	56
24	63	79	97	93	103	123	85	292	181	88	62	55
25	59	77	97	93	103	118	87	256	177	87	62	54
26	58	76	94	90	101	114	88	227	174	86	61	54
27	56	73	93	200	99	109	88	215	170	84	61	54
28	55	88	91	400	98	106	88	211	167	81	60	54
29	55	107	88	450	------	104	87	219	160	81	60	54
30	54	93	85	350	------	101	85	200	153	80	58	54
31	54	------	84	280	------	99	------	188	------	80	58	------
TOTAL	1,699	2,556	3,363	3,975	3,482	3,182	2,761	5,878	5,588	3,032	2,070	1,734
MEAN	54.8	85.2	108	128	124	103	92.0	190	186	97.8	66.8	57.8
MAX	87	173	161	450	230	125	101	301	240	146	79	65
MIN	48	52	84	78	98	87	85	84	153	80	58	54
AC-FT	3,370	5,070	6,670	7,880	6,910	6,310	5,480	11,660	11,080	6,010	4,110	3,440

CAL YR 1966: TOTAL 37,275 MEAN 102 MAX 279 MIN 48 AC-FT 73,930
WAT YR 1967: TOTAL 39,320 MEAN 108 MAX 450 MIN 48 AC-FT 77,990

Peak discharge (base, 300 cfs).--Jan. 29 (1500 hrs) 539 cfs (3.80 ft); May 23 (0330 hrs) 306 cfs (3.36 ft).

Note.--No gage-height record Jan. 26 to Feb. 20.

14-3355. South Fork Big Butte Creek near Butte Falls, Oreg.

Location.--Lat 42°32'25", long 122°33'15", in NE¼SW¼ sec.11, T.35 S., R.2 E., on right bank 10 ft downstream from Ginger Creek, 0.6 mile (revised) east of town of Butte Falls, and at mile 14.0.

Drainage area.--138 sq mi.

Records available.--September 1910 to October 1911 (published as "at Butte Falls"), August to October 1915, October 1917 to September 1922, March 1925 to September 1967. Monthly discharge only August, September 1915, published in WSP 1318.

Gage.--Water-stage recorder. Altitude of gage is 2,360 ft (from river-profile map). Sept. 21, 1910, to Sept. 30, 1922, staff gage at site 300 ft upstream at different datums.

Average discharge.--48 years (1910-11, 1917-22, 1925-67), 161 cfs (116,600 acre-ft per year).

Extremes.--Maximum discharge during year, 710 cfs Jan. 28 (gage height, 2.20 ft); minimum, 58 cfs Sept. 30.

1910-11, 1915, 1917-22, 1925-67: Maximum discharge, 12,600 cfs Dec. 22, 1964 (gage height, 7.65 ft), from rating curve extended above 1,600 cfs on basis of slope-area measurement of peak flow; minimum, 39 cfs Oct. 14, 1931.

Remarks.--Records good. Flow slightly regulated since 1952 by Willow Creek Reservoir (capacity, 7,320 acre-ft). Diversions for irrigation of 1,000 acres above station and for municipal water supply for Medford (since 1927) and Butte Falls.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	80	128	98	293	189	180	204	201	84	80	79
2	68	79	124	94	257	192	171	198	189	84	80	79
3	68	79	115	94	234	183	168	195	171	84	80	80
4	66	79	162	96	217	174	165	198	165	92	82	80
5	66	79	234	100	201	168	174	201	162	92	82	80
6	66	84	171	96	192	159	192	201	150	90	82	77
7	68	80	171	94	183	150	183	204	145	90	82	79
8	68	80	168	92	177	145	183	217	145	88	80	79
9	68	80	156	94	174	148	183	309	140	90	80	79
10	68	94	159	94	174	177	189	380	136	90	80	79
11	68	113	150	98	171	165	183	370	128	88	77	82
12	68	102	148	106	165	153	177	348	126	90	77	82
13	70	94	180	133	168	150	174	325	124	90	77	79
14	70	136	189	128	168	156	177	309	122	88	77	77
15	70	131	168	124	162	165	174	297	115	88	79	75
16	70	150	153	124	168	220	168	293	113	88	77	77
17	73	104	140	119	261	269	186	297	104	88	77	77
18	79	94	131	117	277	313	195	297	102	88	77	79
19	79	98	126	138	265	309	195	293	102	88	79	79
20	92	165	122	301	242	301	189	285	124	88	79	77
21	86	131	117	330	224	277	186	273	113	88	79	77
22	98	115	113	257	210	273	186	273	104	88	79	77
23	92	102	111	217	201	281	186	269	102	86	79	77
24	86	98	106	198	198	261	186	249	100	82	79	77
25	82	96	111	177	195	245	195	228	96	82	79	75
26	82	98	104	253	189	231	198	217	94	80	79	77
27	82	94	100	400	183	214	214	198	94	82	79	77
28	80	108	98	627	177	210	217	195	88	82	80	77
29	80	117	100	498	- - - - -	207	220	204	86	80	79	77
30	80	108	100	390	- - - - -	201	220	192	86	82	80	60
31	80	- - - - -	96	348	- - - - -	192	- - - - -	198	- - - - -	80	79	- - - - -
Total	2,341	3,068	4,251	6,035	5,726	6,478	5,614	7,917	3,727	2,680	2,455	2,326
Mean	75.5	102	137	195	204	209	187	255	124	86.5	79.2	77.5
Max	98	165	234	627	293	313	220	380	201	92	82	82
Min	66	79	96	92	162	145	165	192	86	80	77	60
Ac-ft	4,640	6,090	8,430	11,970	11,360	12,850	11,140	15,700	7,390	5,320	4,870	4,610

Cal yr 1966: Total 44,758 Mean 123 Max 583 Min 58 Ac-ft 88,780
Wtr yr 1967: Total 52,618 Mean 144 Max 627 Min 60 Ac-ft 104,400

Peak discharge (base, 450 cfs).--Jan. 28 (0600 hrs) 710 cfs (2.20 ft); May 9 (2200 hrs) 470 cfs (1.80 ft).

14-3376. Rogue River near McLeod, Oreg.

Location.--Lat 42°39'20", long 122°42'50", in SW¼ sec.33, T.33 S., R.1 E., on left bank at Obstinate J Ranch, 1.3 miles downstream from Big Butte Creek, 1.6 miles southwest of McLeod, and at mile 154.0 (revised).

Drainage area.--938 sq mi.

Records available.--October 1965 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,489.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

Extremes.--Maximum discharge during year, 7,970 cfs Jan. 28, (gage height, 5.81 ft); minimum, 744 cfs Aug. 18.

1965-67: Maximum discharge, 7,970 cfs Jan. 28, 1967; minimum, 744 cfs Aug. 18, 1967.

Maximum stage known since at least 1928, 20.35 ft Dec. 22, 1964, from floodmarks (discharge 74,300 cfs), from slope-area measurement of peak flow.

Remarks.--Records good. Some diurnal fluctuation caused by powerplant 15.4 miles (revised) above station. Diversions for irrigation above station; most of flow of Big Butte Creek is diverted near Butte Falls.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,000	996	2,660	1,560	3,160	2,140	2,000	1,930	2,920	1,790	1,150	980
2	1,080	996	2,610	1,520	3,140	2,170	1,920	1,920	2,930	1,750	1,140	988
3	1,060	1,000	2,330	1,490	2,840	2,060	1,900	1,950	2,800	1,700	1,140	988
4	1,060	971	2,800	1,530	2,680	1,980	1,920	2,060	2,790	1,660	1,130	968
5	1,050	1,000	2,850	1,570	2,560	1,940	1,980	2,170	2,890	1,620	1,130	988
6	1,050	1,200	2,570	1,530	2,420	1,900	2,050	2,200	2,900	1,580	1,130	997
7	1,050	1,090	2,600	1,410	2,300	1,880	2,010	2,490	2,810	1,560	1,140	988
8	1,060	1,040	2,380	1,450	2,430	1,860	2,040	3,030	2,720	1,530	1,120	960
9	1,050	1,020	2,240	1,450	2,410	1,880	2,020	3,940	2,720	1,510	1,110	980
10	1,050	1,180	2,530	1,470	2,290	2,140	2,040	4,380	2,670	1,480	1,120	960
11	1,050	1,930	2,440	1,520	2,230	2,020	2,010	3,680	2,600	1,450	1,100	1,010
12	1,080	1,860	2,770	1,620	2,170	1,920	1,990	3,290	2,550	1,440	1,100	1,020
13	1,100	1,620	3,440	1,830	2,230	1,910	2,000	3,060	2,500	1,390	1,090	988
14	1,010	1,880	3,620	1,980	2,230	1,860	2,000	3,010	2,430	1,390	1,080	980
15	980	3,440	2,930	1,910	2,190	1,820	1,920	3,230	2,450	1,380	1,070	971
16	980	3,900	2,610	1,920	2,290	2,260	1,870	3,750	2,530	1,350	1,070	971
17	980	2,370	2,500	1,840	2,930	2,560	2,030	4,380	2,570	1,340	1,030	960
18	980	1,890	2,390	1,780	2,890	2,620	2,130	4,590	2,600	1,320	1,050	1,020
19	980	1,860	2,270	1,840	2,530	2,530	2,060	4,550	2,620	1,320	1,050	997
20	1,030	3,440	2,210	3,510	2,420	2,670	2,000	4,520	2,900	1,300	1,040	988
21	1,180	2,840	2,080	3,290	2,320	2,630	1,960	4,730	2,620	1,270	1,030	980
22	1,380	2,310	1,920	2,620	2,240	2,650	1,940	4,900	2,370	1,270	1,020	971
23	1,570	1,920	1,920	2,300	2,170	2,980	1,930	4,810	2,230	1,250	1,020	963
24	1,250	1,720	1,860	2,150	2,130	2,770	1,930	4,350	2,130	1,230	1,030	954
25	1,120	1,620	1,870	2,050	2,150	2,530	2,030	3,840	2,090	1,230	1,020	954
26	1,090	1,610	1,780	2,740	2,060	2,390	2,010	3,570	2,050	1,220	1,020	954
27	1,010	1,540	1,680	4,450	2,000	2,270	2,040	3,440	2,000	1,200	1,020	946
28	1,030	1,690	1,620	7,330	1,990	2,210	2,010	3,380	1,920	1,190	1,020	946
29	1,020	2,350	1,610	6,440	------	2,190	1,990	3,590	1,880	1,200	1,010	946
30	1,010	2,040	1,620	5,000	------	2,140	1,990	3,280	1,860	1,170	997	946
31	1,000	------	1,550	4,200	------	2,060	------	3,070	------	1,160	1,010	------
TOTAL	33,340	54,323	72,260	77,310	67,400	68,940	59,720	107,090	75,050	43,250	33,187	29,342
MEAN	1,075	1,811	2,331	2,494	2,407	2,224	1,991	3,455	2,502	1,395	1,071	978
MAX	1,570	3,900	3,620	7,330	3,160	2,980	2,130	4,900	2,930	1,790	1,150	1,020
MIN	980	971	1,550	1,410	1,990	1,820	1,870	1,920	1,860	1,160	997	946
AC-FT	66,130	107,700	143,300	153,300	133,700	136,700	118,500	212,400	148,900	85,790	65,830	58,200

CAL YR 1966: TOTAL 698,620 MEAN 1,914 MAX 4,950 MIN 949 AC-FT 1,386,000
WAT YR 1967: TOTAL 721,212 MEAN 1,976 MAX 7,330 MIN 946 AC-FT 1,431,000

14-3380. Elk Creek near Trail, Oreg.

Location.--Lat 42°39'50", long 122°44'50", in SW¼ sec.30, T.33 S., R.1 E., on right bank 3.3 miles northeast of Trail and at mile 0.4.

Drainage area.--133 sq mi.

Records available.--October 1945 to September 1967. Prior to March 1946 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,456.56 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to July 5, 1946, staff gage at various sites within 1 mile of present site at different datums. July 5, 1946, to June 22, 1950, staff gage, and June 23, 1950, to May 23, 1954, graphic water-stage recorder, at site 0.3 mile upstream at datum 12.14 ft higher. May 24, 1954, to Apr. 22, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--22 years, 235 cfs (170,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,220 cfs Jan. 28 (gage height, 8.71 ft); minimum, 1.7 cfs Aug. 19.

1945-67: Maximum discharge, 19,200 cfs Dec. 22, 1964 (gage height, 18.84 ft), from rating curve extended above 4,700 cfs on basis of slope-area measurement of peak flow; minimum, 0.40 cfs Aug. 16, 1965.

Remarks.--Records good. No regulation. Six diversions above station for irrigation of about 250 acres of which about 100 acres is below station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	4.5	13	431	136	729	269	206	246	115	24	5.9	2.3
2	4.2	12	457	153	550	291	206	233	111	23	5.9	2.8
3	3.7	12	420	152	448	256	219	225	98	21	5.7	3.2
4	4.5	12	907	169	400	225	249	232	92	21	5.6	2.5
5	4.5	12	1,880	189	377	200	281	240	86	20	4.8	3.4
6	4.5	23	871	176	343	181	360	235	81	18	4.9	3.7
7	4.8	26	731	162	308	166	374	258	77	16	5.5	3.3
8	4.9	20	653	151	278	157	339	291	72	17	5.1	3.1
9	5.1	17	508	157	251	153	292	377	66	15	3.6	3.3
10	4.9	28	1,050	214	230	186	259	476	63	15	4.5	3.6
11	5.0	271	952	316	211	179	234	420	62	16	4.1	4.1
12	6.3	172	1,070	348	194	178	204	370	59	15	4.8	4.1
13	6.1	124	1,070	523	199	180	192	316	60	14	3.6	4.4
14	6.7	373	995	480	194	177	185	283	57	12	4.5	4.2
15	6.9	1,260	648	400	190	174	170	274	51	11	3.2	4.1
16	6.8	1,290	472	340	225	433	158	285	46	11	3.2	3.4
17	6.8	416	376	291	669	534	178	293	44	12	3.2	3.7
18	6.3	221	307	246	869	450	206	273	42	11	3.4	5.3
19	6.2	264	258	234	612	403	218	253	40	11	2.6	6.1
20	7.6	1,560	229	1,410	446	484	203	238	60	11	3.2	5.4
21	19	1,080	199	1,040	368	526	195	224	46	11	2.9	4.9
22	73	571	174	656	333	455	197	210	43	11	2.5	4.3
23	93	342	158	478	324	444	209	189	41	8.7	2.5	3.3
24	46	235	139	394	317	375	205	170	36	8.3	2.7	2.8
25	29	180	151	351	314	317	250	151	35	8.6	2.3	2.6
26	22	189	144	956	281	274	271	137	33	8.2	2.0	2.7
27	18	180	128	2,390	248	240	280	125	33	8.1	2.3	2.6
28	16	207	116	3,480	231	223	265	121	30	8.4	3.0	2.8
29	15	431	115	2,180	------	213	254	119	28	7.4	2.8	3.0
30	14	331	129	1,370	------	214	256	114	26	7.0	2.6	3.0
31	13	------	126	1,010	------	220	------	126	------	6.1	2.2	------
TOTAL	468.3	9,872	15,864	20,552	10,139	8,777	7,115	7,504	1,733	406.8	115.1	108.0
MEAN	15.1	329	512	663	362	283	237	242	57.8	13.1	3.71	3.60
MAX	93	1,560	1,880	3,480	869	534	374	476	115	24	5.9	6.1
MIN	3.7	12	115	136	190	153	158	114	26	6.1	2.0	2.3
AC-FT	929	19,580	31,470	40,760	20,110	17,410	14,110	14,880	3,440	807	228	214

CAL YR 1966: TOTAL 90,742.9 MEAN 249 MAX 4,680 MIN 1.8 AC-FT 180,000
WAT YR 1967: TOTAL 82,654.2 MEAN 226 MAX 3,480 MIN 2.0 AC-FT 163,900

Peak discharge (base, 2,700 cfs).--Dec. 4 (2400 hrs) 3,590 cfs (8.21 ft); Jan. 28 (0830 hrs) 4,220 cfs (8.71 ft).

14-3390. Rogue River at Dodge Bridge, near Eagle Point, Oreg.

Location.--Lat 42°31'30", long 122°50'30", in SE¼ sec.17, T.35 S., R.1 W., on right bank 50 ft upstream from Dodge Bridge, 0.7 mile (revised) downstream from Reese Creek, 4.3 miles northwest of Eagle Point, and at mile 138.61.

Drainage area.--1,215 sq mi.

Records available.--October 1938 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,273.66 ft above mean sea level, datum of 1929. Prior to Dec. 21, 1938, staff gage, and Dec. 21, 1938 to Nov. 6, 1965, graphic water-stage recorder at present site and datum.

Average discharge.--29 years, 2,627 cfs (1,902,000 acre-ft per year).

Extremes.--Maximum discharge during year, 16,100 cfs Jan. 28 (gage height, 6.45 ft); minimum, 794 cfs Sept. 27-29; minimum daily, 948 cfs Sept. 27, 30.

1938-67: Maximum discharge, 87,600 cfs Dec. 22, 1964 (gage height, 12.78 ft), from rating curve extended above 23,000 cfs; minimum, 611 cfs Aug. 6, 14, 29, Sept. 9, 1940.

Remarks.--Records excellent except those for October, which are fair. Some diurnal fluctuation caused by powerplant 30 miles upstream. Diversions for irrigation above station; most of flow of Big Butte Creek is diverted near Butte Falls.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,000	1,020	3,560	1,780	5,130	2,610	2,420	2,340	3,180	1,770	1,170	1,010
2	1,000	1,020	3,590	1,780	4,390	2,720	2,330	2,310	3,260	1,730	1,160	1,030
3	1,000	1,020	3,160	1,720	3,860	2,550	2,310	2,320	3,030	1,670	1,160	1,010
4	1,050	1,010	4,500	1,790	3,550	2,420	2,370	2,430	2,980	1,660	1,150	1,030
5	1,000	1,000	8,410	1,920	3,350	2,330	2,460	2,560	3,060	1,590	1,150	1,010
6	1,050	1,190	4,490	1,850	3,160	2,250	2,770	2,610	3,070	1,550	1,130	1,010
7	1,000	1,160	4,060	1,770	3,000	2,190	2,700	2,910	2,970	1,530	1,160	1,010
8	1,000	1,070	3,880	1,710	2,900	2,160	2,650	3,550	2,920	1,500	1,130	1,000
9	1,000	1,060	3,310	1,700	2,820	2,150	2,560	4,450	2,860	1,480	1,130	1,000
10	1,000	1,160	4,600	1,770	2,660	2,530	2,520	5,340	2,800	1,450	1,130	1,000
11	1,000	7,060	4,040	1,940	2,550	2,430	2,460	4,550	2,730	1,430	1,120	1,040
12	1,020	2,110	4,470	2,070	2,460	2,310	2,380	4,090	2,660	1,410	1,110	1,050
13	1,050	1,870	5,050	2,460	2,520	2,300	2,360	3,750	2,580	1,360	1,100	1,010
14	1,020	2,180	5,470	2,710	2,570	2,230	2,380	3,610	2,500	1,360	1,100	1,000
15	1,000	4,950	4,210	2,500	2,530	2,160	2,270	3,770	2,500	1,370	1,070	990
16	1,000	6,420	3,600	2,420	2,630	2,930	2,170	4,240	2,550	1,330	1,090	990
17	1,000	3,200	3,270	2,270	4,190	3,520	2,390	4,880	2,600	1,320	1,050	1,000
18	1,000	2,300	3,000	2,140	4,200	3,430	2,600	5,120	2,610	1,310	1,070	1,050
19	1,000	2,230	2,790	2,110	3,580	3,310	2,530	5,060	2,630	1,310	1,090	1,040
20	1,050	6,350	2,660	7,020	3,160	3,630	2,390	4,990	2,970	1,300	1,060	1,010
21	1,300	4,870	2,520	6,120	2,920	3,580	2,350	5,200	2,690	1,300	1,050	1,000
22	1,300	3,400	2,350	4,150	2,760	3,440	2,320	5,350	2,440	1,280	1,050	1,000
23	2,000	2,580	2,230	3,330	2,670	3,720	2,330	5,260	2,280	1,270	1,050	990
24	1,500	2,190	2,120	2,980	2,620	3,520	2,310	4,820	2,170	1,240	1,050	969
25	1,200	1,900	2,140	2,790	2,650	3,170	2,470	4,270	2,100	1,230	1,040	969
26	1,200	1,940	2,050	5,240	2,560	2,960	2,470	3,930	2,070	1,230	1,040	969
27	1,050	1,850	1,920	9,380	2,490	2,770	2,540	3,780	2,010	1,220	1,050	948
28	1,050	1,930	1,830	13,900	2,420	2,680	2,500	3,680	1,920	1,210	1,050	969
29	1,050	3,110	1,810	10,900	------	2,660	2,420	3,900	1,860	1,210	1,040	969
30	1,050	2,630	1,840	8,040	------	2,610	2,430	3,570	1,830	1,190	1,030	948
31	1,050	------	1,760	6,440	------	2,540	------	3,400	------	1,180	1,040	------
TOTAL	33,590	70,840	104,730	118,700	86,260	85,810	73,160	122,040	77,630	42,990	33,620	30,021
MEAN	1,096	2,361	3,378	3,829	3,081	2,768	2,439	3,937	2,594	1,387	1,091	1,001
MAX	2,000	8,420	8,410	13,900	5,130	3,720	2,770	5,350	3,260	1,770	1,170	1,050
MIN	1,000	1,000	1,760	1,700	2,420	2,150	2,170	2,310	1,830	1,180	1,030	948
AC-FT	67,420	140,500	207,700	235,400	171,100	170,200	145,100	242,100	154,000	85,270	67,080	59,550

CAL YR 1966: TOTAL 875,685 MEAN 2,399 MAX 19,200 MIN 991 AC-FT 1,737,000
WAT YR 1967: TOTAL 880,191 MEAN 2,411 MAX 13,900 MIN 948 AC-FT 1,746,000

Peak discharge (base, 9,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0130	5.82	13,900	1-28	0800	6.45	16,100
1-20	1630	4.36	9,290				

Note.--No gage-height record Oct. 1-31.

14-3415. South Fork Little Butte Creek near Lakecreek, Oreg.

Location.--Lat 42°24'30", long 122°36'00", in SE¼ sec.29, T.36 S., R.2 E., on left bank 0.5 mile upstream from intake of Rogue River Valley Canal, 1.4 miles southeast of Lakecreek, and at mile 18.1

Drainage area.--138 sq mi.

Records available.--April 1921 to September 1967.

Gage.--Water-stage recorder. Auxiliary staff gage at site 25 ft upstream used January 12 to September 6, 1965. Altitude of gage is 1,725 ft (by barometer). April 15 to June 17, 1921, staff gage, and June 18, 1921, to September 6, 1965, water-stage recorder at site 55 ft upstream at datum 5.0 ft lower.

Average discharge.--46 years, 106 cfs (76,740 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs May 9 (gage height, 4.85 ft); minimum, 12 cfs Oct. 4-6, 10, 11.

1921-67: Maximum discharge, 7,660 cfs Dec. 2, 1962 (gage height, 8.35 ft, site and datum then in use); minimum, 2 cfs Aug. 10, 1931.

Remarks.--Records good except those July to September, which are poor. No regulation. Diversions for irrigation of about 1,000 acres above station; also, in December 1958 Dead Indian collection canal began diverting above station from Conde Creek and Dead Indian Creek and in December 1959 South Fork Little Butte collection canal began diverting above station from South Fork Little Butte Creek, Daley Creek, and Beaver Dam Creek. These are transbasin diversions to Howard Prairie Reservoir in Klamath River basin, but eventually this water is diverted back to Rogue River basin for irrigation of lands in the Ashland-Medford area and power development enroute.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	15	60	44	262	128	130	152	180	46	22	19
2	14	15	55	42	209	128	125	148	159	43	22	19
3	15	16	52	41	180	115	128	158	128	43	22	19
4	14	16	150	42	160	107	122	177	116	40	22	19
5	14	16	302	45	142	111	132	312	109	39	22	19
6	13	19	162	45	130	95	183	246	93	38	21	19
7	13	18	122	42	120	93	160	310	79	36	21	19
8	13	14	109	41	109	90	150	410	68	35	21	19
9	14	13	103	47	101	90	148	700	104	35	21	19
10	13	18	148	53	97	111	160	624	97	34	21	18
11	12	28	122	56	91	118	155	475	104	33	21	18
12	15	24	128	57	88	120	142	388	98	33	19	18
13	18	22	174	95	91	120	148	339	91	32	20	18
14	18	22	162	111	88	103	148	306	79	31	20	18
15	19	29	125	99	99	101	152	318	71	31	19	18
16	18	56	105	93	140	348	142	352	70	31	20	18
17	19	33	93	84	395	278	186	388	82	30	19	18
18	18	26	82	76	380	298	266	384	78	29	19	18
19	18	27	77	84	262	246	312	366	76	28	20	18
20	19	120	74	209	206	212	177	348	130	28	20	18
21	22	77	66	302	177	202	168	339	102	27	20	18
22	25	58	58	160	160	198	158	326	84	27	19	18
23	22	45	56	120	150	220	165	302	76	26	19	18
24	16	38	52	99	145	195	158	262	70	26	20	18
25	16	36	52	84	142	174	189	218	64	25	20	18
26	16	52	48	262	130	158	183	194	60	25	20	18
27	16	48	45	538	122	148	209	171	55	25	19	18
28	15	46	42	847	120	145	186	159	53	24	19	18
29	15	46	44	584	- - - - -	142	168	150	50	24	19	18
30	15	50	44	405	- - - - -	145	165	138	49	23	19	18
31	15	- - - - -	41	340	- - - - -	138	- - - - -	148	- - - - -	23	19	- - - - -
Total	504	1,043	2,953	5,147	4,496	4,877	5,015	9,308	2,675	970	625	549
Mean	16.3	34.8	95.3	166	161	157	167	300	89.2	31.3	20.2	18.3
Max	25	120	302	847	395	348	312	700	180	46	22	19
Min	12	13	41	41	88	90	122	138	49	23	19	18
Ac-ft	1,000	2,070	5,860	10,210	8,920	9,670	9,950	18,460	5,310	1,920	1,240	1,090

Cal yr 1966: Total 21,682 Mean 59.4 Max 433 Min 10 Ac-ft 43,010
Wtr yr 1967: Total 38,162 Mean 105 Max 700 Min 12 Ac-ft 75,690

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	unknown	4.50	1,090	3-16	1000	3.82	538
1-28	0500	4.50	1,090	5- 9	2130	4.85	1,330
2-17	1900	3.76	501				

Note.--No gage-height record Aug. 25 to Sept. 30.

14-3425. North Fork Little Butte Creek at Fish Lake, near Lakecreek, Oreg.

Location.--Lat 42°22'35", long 122°21'20", in SE¼SW¼ sec.4, T.37 S., R.4 E., on right bank 0.5 mile downstream from Fish Lake dam, 14 miles east of Lakecreek, and at mile 15.2.

Drainage area.--20.8 sq mi.

Records available.--October 1914 to July 1915, June 1916 to September 1967. Monthly discharge only November 1916 to May 1917, published in WSP 1318.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,571.41 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Oct. 1, 1914, to July 31, 1915, staff gage at site 0.5 mile upstream at different datum. June 1, 1916, to July 9, 1918, staff gage and July 10, 1918, to Oct. 28, 1932, water-stage recorder, at site 0.25 mile upstream at different datums.

Average discharge.--51 years (1916-67), 36.0 cfs (26,060 acre-ft per year).

Extremes.--Maximum discharge during year, 119 cfs July 15 (gage height, 1.88 ft); minimum, 0.10 cfs Oct. 1-11.

1914-67: Maximum discharge, about 940 cfs June 5, 1917, computed from rate of change in contents of reservoir after break in dam occurred; no flow at times.

Remarks.--Records good. Since 1915, Fish Lake (see below) has stored water for irrigation by Medford Irrigation District. Cascade Canal diverts from Fourmile Lake in Klamath River basin and discharges into lava bed 1.0 mile above Fish Lake; diversion began August 1923. No diversion from creek above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	2.7	9.5	11	13	13	16	17	34	49	82	73
2	.10	3.0	9.5	11	13	13	16	18	34	55	82	73
3	.10	3.3	9.5	11	13	13	16	17	34	58	84	71
4	.10	3.6	10	11	13	13	16	17	34	67	85	71
5	.10	4.0	10	11	13	13	16	18	34	67	73	67
6	.10	4.6	10	11	13	13	16	19	34	75	57	64
7	.10	4.7	10	11	13	13	16	19	34	80	82	60
8	.10	4.9	10	11	13	14	16	19	34	73	80	58
9	.10	5.3	10	11	13	14	16	20	34	67	78	53
10	.10	6.0	10	11	13	14	17	20	34	62	76	49
11	.10	6.5	10	11	13	14	17	20	34	66	76	49
12	.20	6.5	10	11	13	14	17	20	34	76	78	49
13	.20	6.5	11	12	13	14	17	20	34	80	87	45
14	.20	6.5	11	12	13	14	17	21	34	100	92	42
15	.20	7.2	11	12	13	14	16	22	32	119	89	52
16	.30	8.0	11	12	13	16	16	23	32	117	85	62
17	.30	7.6	11	12	13	15	16	25	32	116	84	62
18	.40	7.6	11	12	13	15	16	26	32	114	84	55
19	.40	7.6	11	12	13	15	16	27	35	113	84	50
20	.60	8.4	11	12	13	15	16	28	34	111	82	50
21	.60	8.4	11	12	13	15	16	29	34	110	82	50
22	1.0	8.4	11	12	13	15	16	30	32	106	80	50
23	1.0	8.4	11	12	13	16	16	30	32	102	80	55
24	1.1	8.4	11	12	13	16	16	31	31	102	75	60
25	1.2	8.4	11	12	13	16	16	31	31	99	70	60
26	1.4	8.9	11	12	13	16	16	31	31	97	69	58
27	1.6	8.9	11	12	13	16	16	32	31	97	69	58
28	1.8	8.9	11	13	13	16	16	32	31	92	66	58
29	1.9	8.9	11	13		16	16	32	31	87	60	18
30	2.2	9.5	11	13	- - - - -	16	16	34	31	85	60	.60
31	2.4	- - - - -	11	13	- - - - -	16	- - - - -	34	- - - - -	85	64	- - - - -
Total	20.1	201.6	327.5	364	364	453	485	762	988	2,727	2,395	1,622.60
Mean	.65	6.72	10.6	11.7	13.0	14.6	16.2	24.6	32.9	88.0	77.3	54.1
Max	2.4	9.5	11	13	13	16	17	34	35	119	92	73
Min	.10	2.7	9.5	11	13	13	16	17	31	49	60	.60
Ac-ft	40	400	650	722	722	899	962	1,510	1,960	5,410	4,750	3,220
(†)	2,630	3,320	a3,700	4,040	a4,100	a4,400	a4,800	5,850	6,530	3,250	1,540	1,280

Cal yr 1966: Total 13,671.4 Mean 37.5 Max 100 Min .10 Ac-ft 27,120
Wtr yr 1967: Total 10,345.8 Mean 28.3 Max 119 Min .10 Ac-ft 20,520

† Month-end contents, in acre-feet, of Fish Lake.
a No month-end gage-height record for December, February, March, and April; contents interpolated.

14-3430. North Fork Little Butte Creek near Lakecreek, Oreg.

Location (revised).--Lat 42°24'10", long 122°32'10", in NE¼ sec.36, T.36 S., R.2 E., on right bank 1.2 miles upstream from Wasson Canyon, 4.9 miles east of Lakecreek, and at mile 4.8.

Drainage area.--43.8 sq mi.

Records available.--September 1911 to March 1913, July to September 1917, May 1922 to December 1964, September 1965 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Published as "above Medford intake, near Lakecreek" 1922-28, 1931-40. Records for April to September 1916, May 1917 to September 1919, April to September 1921, and October 1923 to September 1924 at site 3 miles upstream not equivalent owing to diversions and difference in drainage areas.

Gage.--Water-stage recorder. Altitude of gage is 2,160 ft (from topographic map). Sept. 10, 1911, to Mar. 31, 1913, and July 1 to Sept. 30, 1917, staff gages 1,000 ft downstream from present site at different datums. May 1922 to December 1964, water-stage recorder at site 1,000 ft downstream at datum 2,125.01 ft above mean sea level, datum of 1929.

Average discharge.--45 years (1911-12, 1922-64, 1965-67), 72.0 cfs (52,130 acre-ft per year).

Extremes.--Maximum discharge during year, 202 cfs May 9 (gage height, 3.37 ft); minimum, 20 cfs Oct. 4.

1911-13, 1917, 1922-67: Maximum discharge, 1,750 cfs Dec. 22, 1964 (gage height, 3.70 ft, site and datum then in use); minimum, 11 cfs Oct. 29 to Nov. 8, 1931.

Remarks.--Records good except those for November, which are poor. Flow partly regulated by Fish Lake since 1915. Diversions for irrigation of 100 acres above station; some water diverted into Fish Lake from Fourmile Lake, in Klamath River basin, since 1923.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	25	46	39	61	60	56	63	82	78	108	98
2	21	25	44	39	56	58	55	61	75	88	106	98
3	21	25	43	39	54	55	55	60	74	88	108	98
4	21	26	69	39	52	54	54	60	72	98	111	96
5	21	27	71	40	51	52	60	61	72	96	104	93
6	21	27	52	39	49	50	67	61	72	100	81	88
7	21	27	49	39	47	49	62	60	71	108	106	87
8	21	27	47	39	47	49	60	65	71	108	104	82
9	22	27	46	41	46	49	59	98	70	105	104	80
10	22	27	48	43	45	52	61	106	70	100	104	75
11	22	27	47	44	44	52	58	100	68	100	102	76
12	23	27	47	45	44	52	55	93	68	110	104	72
13	23	27	55	61	45	51	56	87	67	111	110	70
14	22	27	52	55	45	51	58	82	66	128	116	63
15	22	32	47	51	45	54	59	82	65	144	112	71
16	22	45	45	50	55	93	56	84	65	142	110	82
17	22	35	42	47	116	78	61	86	65	140	108	84
18	22	27	41	46	96	81	72	86	65	138	108	80
19	22	27	40	46	75	72	70	86	74	138	105	72
20	23	80	40	60	67	67	65	86	76	136	104	72
21	23	55	39	78	63	62	62	84	70	136	104	72
22	27	46	39	59	61	61	61	82	66	134	104	71
23	25	42	39	52	60	61	63	81	66	130	104	74
24	24	38	38	50	59	59	62	80	65	128	100	81
25	24	38	39	48	58	56	68	76	63	126	96	81
26	24	47	38	70	58	54	66	75	62	122	94	81
27	24	45	38	90	56	53	72	74	63	122	94	80
28	24	43	37	92	60	53	68	74	63	117	93	80
29	24	42	38	78	- - - - -	56	67	74	62	111	87	57
30	24	41	39	63	- - - - -	55	66	75	63	110	87	24
31	24	- - - - -	38	67	- - - - -	55	- - - - -	78	- - - - -	110	88	- - - - -
Total	702	1,054	1,393	1,649	1,615	1,804	1,854	2,420	2,051	3,602	3,166	2,338
Mean	22.6	35.1	44.9	53.2	57.7	58.2	61.8	78.1	68.4	116	102	77.9
Max	27	80	71	92	116	93	72	106	82	144	116	98
Min	21	25	37	39	44	49	54	60	62	78	81	24
Ac-ft	1,390	2,090	2,760	3,270	3,200	3,580	3,680	4,800	4,070	7,140	6,280	4,640

Cal yr 1966: Total 24,195 Mean 66.3 Max 150 Min 21 Ac-ft 47,990
Wtr yr 1967: Total 23,648 Mean 64.8 Max 144 Min 21 Ac-ft 46,910

14-3500. Emigrant Creek near Ashland, Oreg.

Location.--Lat 42°09'50", long 122°36'15", in SE¼NE¼ sec.20, T.39 S., R.2 E., on left bank 0.1 mile downstream from Emigrant Dam, 6 miles southeast of Ashland, and at mile 29.2.

Drainage area.--64.3.

Records available.--January to June 1920, October 1920 to July 1922, February 1923 to May 1924 (incomplete), October 1924 to November 1925, February to August 1926, October 1926 to September 1928, April 1929 to September 1930, April 1931 to October 1932 (incomplete) April 1933 to September 1935, April 1936 to September 1939 (incomplete), April 1940 to September 1947, January 1948 to October 1952 (incomplete), December 1952 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder and artificial control. Datum of gage is 2,042.80 ft above mean sea level (Bureau of Reclamation bench mark). Prior to Oct. 1, 1926, water-stage recorder or staff gage at several nearby sites at various datums. Oct. 1, 1926, to Feb. 24, 1959, water-stage recorder near present site at datum 10.93 ft higher. Feb. 25, 1959, to May 7, 1961, water-stage recorder at site 1.0 mile downstream at different datum.

Average discharge.--27 years (1924-25, 1926-28, 1929-30, 1933-35, 1940-47, 1953-67) 28.3 cfs (20,490 acre-ft per year).

Extremes.--Maximum discharge during year, 561 cfs May 9, 10 (gage height, 3.74 ft); no flow at times.

1920-67: Maximum discharge, 5,260 cfs Feb. 20, 1927, by computation of peak flow over dam; no flow at times.

Remarks.--Records good. Flow regulated since 1924 by Emigrant Lake. Several diversions above station for irrigation; the principal diversion canals are Ashland lateral and East lateral. From June 1923 to August 1960, water diverted by Keene Creek Canal from Klamath River basin into Emigrant Creek above station. Beginning May 1960, water from Klamath River basin diverted to Emigrant Creek above station via Green Springs powerplant diversion.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0	134	120	90	21	51	73	68
2	0	0	0	0	0	134	120	80	.20	50	77	68
3	0	0	0	0	0	134	90	68	.20	50	84	68
4	.10	0	.10	0	0	134	0	68	.20	52	84	66
5	.10	0	0	0	0	134	0	68	7.1	70	86	66
6	.10	0	0	0	0	56	26	69	25	70	88	59
7	.10	0	0	0	0	0	102	69	25	70	84	54
8	.20	0	0	0	0	0	102	78	25	70	81	50
9	.20	0	0	.10	0	0	102	223	25	70	78	43
10	.10	0	0	0	0	0	102	220	25	70	78	39
11	.10	0	0	0	0	0	102	200	25	72	77	39
12	.10	0	.10	0	0	0	51	198	25	72	75	39
13	.10	0	.10	0	0	0	0	56	42	72	75	36
14	.10	0	0	0	0	0	0	50	42	72	74	32
15	.10	.10	0	0	0	0	16	50	42	72	70	32
16	.10	0	0	0	.10	0	29	50	42	72	64	32
17	.10	0	0	0	.10	0	208	61	42	72	66	33
18	.10	0	0	0	.10	0	290	117	42	72	77	33
19	.10	0	0	0	.10	0	220	390	42	72	81	32
20	.10	0	0	0	54	0	240	208	42	73	81	30
21	.10	0	0	0	154	0	75	84	42	73	77	28
22	.10	0	0	0	180	0	.20	33	42	66	73	28
23	0	0	.10	0	164	0	41	33	40	58	69	28
24	0	0	.10	0	166	18	66	29	35	58	68	28
25	0	0	.10	0	168	70	75	.20	35	58	64	28
26	0	0	0	.10	166	105	102	11	34	58	59	27
27	0	0	0	.10	148	105	130	34	34	65	55	27
28	0	0	0	.10	134	117	120	34	33	70	55	27
29	0	0	.10	.10		138	110	34	35	72	55	27
30	0	0	0	0	----------	138	100	34	41	72	55	9.4
31	0	----------	0	0	----------	130	----------	35	----------	72	59	----------
Total	2.10	0.10	0.70	0.50	1,334.40	1,547	2,739.20	2,774.20	910.7	2,066	2,242	1,176.4
Mean	.068	0.003	.023	.016	47.7	49.9	91.3	89.5	30.4	66.6	72.3	39.2
Ac-ft	4.2	0.2	1.4	1.0	2,650	3,070	5,430	5,500	1,810	4,100	4,450	2,330
(†)	a8,400	a12,100	a19,400	a28,700	a33,740	38,760	a38,840	38,060	a33,800	23,200	a11,300	5,090
(‡)	0	0	0	0	0	0	879	4,870	7,530	9,450	9,380	6,070

Cal yr 1966: 6,620.70 Mean 18.1 Max 164 Min 0 Ac-ft 13,130
Wtr yr 1967: 14,793.30 Mean 40.5 Max 390 Min 0 Ac-ft 29,340

† Month-end contents, in acre-feet, of Emigrant Lake.
‡ Diversion, in acre-feet, by East lateral.
a No gage-height record.

14-3575. Bear Creek at Medford, Oreg.

Location.--Lat 42°19'40", long 122°52'10", in NW¼ sec.30, T.37 S., R.1 W., on left bank 40 ft upstream from Main Street Bridge in Medford, and at mile 9.91.

Drainage area.--289 sq mi.

Records available.--March 1915 to June 1920 (no low-flow records), October 1920 to September 1967. Monthly discharge only for some periods, published in WSP 1318.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,343.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Mar. 1, 1915, to June 30, 1918, staff gage and Sept. 20, 1918, to Feb. 9, 1919, water-stage recorder, at site 40 ft upstream at datum 0.58 ft lower. Feb. 10, 1919, to Jan. 6, 1943, water-stage recorder and Jan. 7 to Sept. 9, 1943, staff gage, at site 40 ft upstream at datum 0.42 ft higher. Sept. 10, 1943, to Dec. 30, 1947, water-stage recorder at site 40 ft upstream at present datum.

Average discharge.--47 years (1920-67), 108 cfs (78,190 acre-ft per year).

Extremes.--Maximum discharge during year, 1,930 cfs Dec. 4 (gage height, 3.41 ft); minimum, 19 cfs Sept. 17.

1915-67: Maximum discharge, 14,500 cfs Dec. 2, 1962 (gage height, 8.04 ft); maximum gage height, about 11.0 ft Feb. 20, 1927, from floodmarks, present datum, site then in use; practically no flow at times.

Remarks.--Records good except those for October, which are fair. Flow partly regulated since 1924 by Emigrant Lake. Numerous diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	28	132	65	302	254	250	218	218	45	65	48
2	35	28	115	64	242	250	246	163	187	62	67	45
3	35	28	95	64	206	242	250	157	140	52	62	52
4	34	31	462	64	187	230	157	218	122	45	65	65
5	33	29	730	76	178	226	122	242	135	55	67	90
6	32	30	230	67	166	204	172	238	115	60	75	64
7	31	31	178	62	160	113	246	262	125	65	80	58
8	31	30	172	62	146	99	242	284	86	78	118	60
9	30	30	143	62	115	95	230	385	55	80	88	57
10	30	34	184	67	113	130	234	230	76	88	65	52
11	30	50	149	73	120	138	238	604	80	75	57	57
12	30	44	154	75	118	122	214	459	90	95	48	55
13	32	40	214	82	122	115	127	390	95	76	44	53
14	34	60	184	90	157	110	125	206	99	62	50	45
15	35	130	138	80	178	104	135	184	84	60	47	39
16	35	182	132	76	163	282	175	202	90	71	53	29
17	35	78	122	71	302	310	258	279	73	84	48	33
18	35	58	115	69	345	262	597	325	69	73	44	80
19	35	82	108	69	202	254	454	494	84	73	55	82
20	36	385	106	166	166	214	470	437	97	75	58	69
21	37	181	97	548	242	190	315	288	140	80	62	60
22	39	127	90	232	320	175	166	234	130	80	57	57
23	37	88	84	143	292	190	238	198	118	76	57	52
24	33	75	80	120	292	172	292	187	101	82	69	45
25	30	71	80	108	297	210	302	175	82	84	76	44
26	30	88	76	363	284	258	315	154	80	53	78	58
27	29	80	73	542	274	218	360	172	58	48	99	65
28	30	84	69	1,020	246	218	330	184	53	65	101	58
29	29	90	69	709		274	320	194	47	78	86	64
30	29	73	69	464	- - - - -	274	297	169	44	73	73	90
31	29	- - - - -	67	400	- - - - -	266	- - - - -	172	- - - - -	78	55	- - - - -
Total	1,017	2,365	4,717	6,153	5,935	6,199	7,877	8,104	2,973	2,171	2,069	1,726
Mean	32.8	78.8	152	198	212	200	263	261	99.1	70.0	66.7	57.5
Max	39	385	730	1,020	345	310	597	604	218	95	118	90
Min	29	28	67	62	113	95	122	154	44	45	44	29
Ac-ft	2,020	4,690	9,360	12,200	11,770	12,300	15,620	16,070	5,900	4,310	4,100	3,420

Cal yr 1966: Total 33,390 Mean 91.5 Max 1,220 Min 28 Ac-ft 66,230
Wtr yr 1967: Total 51,306 Mean 141 Max 1,020 Min 28 Ac-ft 101,800

14-3590. Rogue River at Raygold, near Central Point, Oreg.

Location (revised).--Lat 42°26'15", long 122°59'10", in SW¼ sec.18, T.36 S., R.2 W., on right bank at Raygold, 0.1 mile downstream from Gold Ray Dam, 1.0 miles downstream from Bear Creek, 5.6 miles northwest of Central Point, and at mile 125.8.

Drainage area.--2,053 sq mi.

Records available.--August 1905 to September 1967. Prior to October 1921, published as "near Tolo."

Gage.--Digital water-stage recorder. Datum of gage is 1,121.78 ft above mean sea level, datum of 1929. Prior to Sept. 19, 1914, staff gage and Sept. 19, 1914, to Sept. 30, 1956, graphic water-stage recorder, at site 300 ft upstream at same datum. Oct. 1, 1956 to May 28, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--62 years, 2,934 cfs (2,124,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,000 cfs Jan. 28 (gage height, 9.94 ft); minimum not determined; minimum daily, 1,060 cfs Oct. 6, 8-12, Aug. 19.

1905-67: Maximum discharge, 131,000 cfs Dec. 23, 1964 (gage height, 23.43 ft), from rating curve extended above 63,000 cfs on basis of slope-area measurement of 113,000 cfs; minimum not determined; minimum daily, 616 cfs Sept. 6, 1931.

Greatest flood known occurred in December 1861 and reached a stage of about 32 ft, flood in February 1890 reached a stage of about 27.5 ft, from information by Corps of Engineers.

Remarks.--Records good. Diurnal fluctuation caused by powerplant 0.2 mile above station. Slight regulation by Fish Lake (published with sta. no. 3425) and Emigrant Lake (published with sta. no. 3500). Many diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,120	1,110	4,240	2,080	7,340	3,290	3,140	2,990	3,810	1,890	1,200	1,080
2	1,110	1,120	4,270	2,070	6,290	3,530	3,000	2,840	3,930	1,850	1,190	1,090
3	1,100	1,130	3,870	2,040	5,370	3,270	2,920	2,820	3,550	1,810	1,180	1,130
4	1,100	1,130	4,820	2,050	4,970	3,080	2,930	2,980	3,400	1,740	1,180	1,170
5	1,080	1,100	13,700	2,380	4,660	2,940	2,910	3,150	3,480	1,700	1,220	1,160
6	1,060	1,250	6,310	2,220	4,260	2,830	3,580	3,290	3,450	1,620	1,220	1,130
7	1,070	1,320	5,290	2,170	4,020	2,630	3,520	3,630	3,370	1,630	1,220	1,120
8	1,060	1,200	5,150	2,010	3,780	2,560	3,410	4,330	3,250	1,630	1,220	1,120
9	1,060	1,170	4,370	2,010	3,600	2,540	3,280	5,390	3,130	1,610	1,200	1,110
10	1,060	1,230	6,050	2,030	3,390	3,320	3,230	7,810	3,070	1,590	1,190	1,110
11	1,060	2,080	5,280	2,210	3,270	3,460	3,170	6,420	3,000	1,520	1,180	1,180
12	1,060	2,480	5,370	2,350	3,120	3,080	3,030	5,620	2,950	1,490	1,160	1,200
13	1,160	2,130	6,070	2,730	3,250	2,970	2,880	4,990	2,860	1,470	1,150	1,160
14	1,100	2,200	7,150	3,200	3,660	2,810	2,910	4,540	2,770	1,430	1,160	1,110
15	1,100	5,270	5,540	3,010	3,640	2,680	2,810	4,610	2,740	1,400	1,110	1,100
16	1,130	7,960	4,680	2,850	3,850	4,170	2,730	5,110	2,760	1,400	1,110	1,080
17	1,090	4,090	4,190	2,670	6,520	5,080	3,100	5,850	2,780	1,410	1,100	1,090
18	1,100	2,740	3,830	2,510	6,450	4,790	4,310	6,180	2,820	1,370	1,080	1,250
19	1,100	2,420	3,500	2,440	5,210	4,700	4,030	6,230	2,830	1,360	1,060	1,270
20	1,100	8,220	3,280	9,190	4,430	4,860	3,560	6,110	3,280	1,370	1,100	1,210
21	1,320	6,640	3,120	11,100	4,070	4,750	3,240	6,100	3,050	1,350	1,110	1,200
22	1,340	4,540	2,820	6,510	3,900	4,410	2,950	6,220	2,730	1,350	1,100	1,140
23	2,020	3,210	2,690	4,750	3,710	4,680	3,080	6,080	2,550	1,340	1,100	1,110
24	1,660	2,610	2,560	4,000	3,590	4,550	3,080	5,630	2,370	1,330	1,110	1,100
25	1,390	2,330	2,510	3,650	3,610	4,080	3,300	5,020	2,280	1,320	1,110	1,080
26	1,340	2,270	2,480	7,660	3,470	3,830	3,350	4,570	2,240	1,290	1,130	1,100
27	1,200	2,230	2,270	12,900	3,250	3,540	3,540	4,350	2,150	1,250	1,170	1,070
28	1,150	2,250	2,150	20,000	3,120	3,380	3,590	4,220	2,050	1,280	1,170	1,070
29	1,170	4,130	2,130	15,000	------	3,440	3,310	4,520	1,980	1,280	1,120	1,080
30	1,160	3,220	2,140	10,800	------	3,420	3,280	4,150	1,940	1,250	1,110	1,120
31	1,150	------	2,120	9,250	------	3,310	------	4,040	------	1,250	1,090	------
TOTAL	36,720	84,780	133,950	159,840	119,800	111,980	97,170	149,790	86,570	45,580	35,550	33,940
MEAN	1,185	2,826	4,321	5,156	4,279	3,612	3,239	4,832	2,886	1,470	1,147	1,131
MAX	2,020	8,220	13,700	20,000	7,340	5,080	4,310	7,810	3,930	1,890	1,220	1,270
MIN	1,060	1,100	2,120	2,010	3,120	2,540	2,730	2,820	1,940	1,250	1,060	1,070
AC-FT	72,830	168,200	265,700	317,000	237,600	222,100	192,700	297,100	171,700	90,410	70,510	67,320

CAL YR 1966: TOTAL 1,037,080 MEAN 2,841 MAX 30,300 MIN 1,020 AC-FT 2,057,000
WAT YR 1967: TOTAL 1,095,670 MEAN 3,002 MAX 20,000 MIN 1,060 AC-FT 2,173,000

Peak discharge (base, 11,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0430	8.94	21,500				
1-20	2000	6.66	13,100				
1-28	1200	9.94	26,000				

14-3615. Rogue River at Grants Pass, Oreg.

Location.--Lat 42°25'50", long 123°19'00", in NW¼ sec.20, T.36 S., R.5 W., on right bank at city of Grants Pass filter plant, 0.6 mile upstream from bridge on U.S. Highway 99 at Grants Pass, and at mile 101.8 (revised).

Drainage area.--2,459 sq mi.

Records available.--October 1938 to September 1967. Prior to January 1939 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 885.28 ft above mean sea level, datum of 1929. Prior to Aug. 8, 1957, graphic water-stage recorder at datum 3.00 ft higher. Aug. 8, 1957, to Aug. 13, 1967, graphic water-stage recorder at present datum.

Average discharge.--29 years, 3,468 cfs (2,511,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,400 cfs Jan. 28 (gage height, 15.13 ft); minimum, 716 cfs, Oct. 15; minimum daily, 1,010 cfs Aug. 13.

1938-67: Maximum discharge, 152,000 cfs Dec. 23, 1964 (gage height, 34.15 ft), from rating curve extended above 93,000 cfs; minimum, 195 cfs Jan. 30, 1961; minimum daily, 637 cfs Aug. 8, 1940.

Flood in December 1861 reached a stage of about 42 ft, present datum (information furnished by Corps of Engineers). Flood in February 1890 reached a stage of about 35 ft, present datum, and that of Feb. 21, 1927, about 31 ft, present datum, according to local resident.

Remarks.--Records good. Many diversions from Rogue River and tributaries above station, the largest of which is at Savage Rapids Dam of Grants Pass Irrigation District, 5 miles above station. Large diurnal fluctuation at times caused by Savage Rapids Dam and by powerplant at Raygold; slight regulation by Fish Lake and Emigrant Lake.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,110	1,250	4,560	2,330	9,090	3,570	3,620	3,250	3,620	1,740	1,110	1,040
2	1,100	1,230	5,080	2,480	7,460	3,830	3,470	2,660	3,850	1,730	1,070	1,040
3	1,100	1,230	4,320	2,340	6,360	3,570	3,410	2,750	3,510	1,630	1,060	1,070
4	1,080	1,220	4,820	2,340	5,720	3,390	2,880	3,090	3,270	1,620	1,040	1,130
5	1,080	1,190	18,700	2,720	5,250	3,250	3,410	3,230	3,310	1,560	1,060	1,140
6	1,060	1,300	8,220	2,550	4,900	3,150	3,880	3,250	3,300	1,510	1,100	1,120
7	1,050	1,480	6,650	2,450	4,600	2,920	3,930	3,440	3,280	1,480	1,070	1,100
8	1,070	1,290	6,630	2,330	4,360	2,820	3,800	4,040	3,150	1,500	1,090	1,100
9	1,080	1,270	5,390	2,280	4,120	2,840	3,680	4,810	3,040	1,490	1,100	1,100
10	1,100	1,290	8,220	2,340	3,850	3,490	3,570	8,010	2,970	1,460	1,060	1,110
11	1,060	1,860	6,980	2,510	3,680	3,950	3,520	6,530	2,910	1,400	1,050	1,170
12	1,060	2,640	6,940	2,650	3,570	3,540	3,330	5,720	2,840	1,350	1,020	1,210
13	1,130	2,100	7,260	2,980	3,600	3,310	3,230	5,070	2,780	1,340	1,010	1,190
14	1,110	2,520	8,690	3,460	4,220	3,150	3,310	4,260	2,750	1,280	1,060	1,140
15	1,080	5,840	6,440	3,250	4,100	3,060	3,170	4,410	2,650	1,290	1,080	1,100
16	1,200	9,420	5,260	3,040	4,320	4,510	3,060	4,870	2,510	1,300	1,060	1,080
17	1,260	4,630	4,630	2,910	6,820	6,020	3,410	5,590	2,650	1,310	1,050	1,100
18	1,280	3,040	4,160	2,760	7,600	5,320	4,380	5,830	2,650	1,260	1,020	1,260
19	1,300	2,710	3,820	2,650	5,940	5,300	4,550	6,040	2,650	1,260	1,020	1,350
20	1,210	8,500	3,620	11,100	5,010	5,520	3,930	5,890	2,910	1,270	1,030	1,290
21	1,400	8,610	3,440	15,400	4,560	5,480	3,600	5,870	2,940	1,250	1,040	1,260
22	1,510	5,370	3,190	8,720	4,380	5,190	3,310	6,000	2,660	1,250	1,040	1,220
23	1,660	3,730	3,030	5,850	4,160	5,350	3,390	5,850	2,480	1,230	1,040	1,200
24	1,930	2,970	2,840	4,870	4,020	5,280	3,360	5,480	2,240	1,210	1,060	1,180
25	1,610	2,610	2,790	4,530	3,980	5,050	3,570	4,810	2,110	1,200	1,080	1,150
26	1,360	2,480	2,790	10,400	3,870	4,410	3,830	4,390	2,120	1,190	1,100	1,140
27	1,380	2,430	2,610	19,300	3,620	4,100	4,220	4,100	1,980	1,130	1,140	1,130
28	1,260	2,360	2,440	30,600	3,510	3,900	3,800	4,000	1,930	1,150	1,160	1,120
29	1,280	3,870	2,410	22,200	------	3,930	3,550	4,240	1,870	1,150	1,120	1,140
30	1,270	3,470	2,450	14,900	------	3,920	3,540	4,000	1,840	1,140	1,080	1,180
31	1,260	------	2,400	12,000	------	3,800	------	3,930	------	1,130	1,070	------
TOTAL	38,440	93,910	160,780	210,240	136,670	126,920	107,710	145,410	82,770	41,810	33,090	34,560
MEAN	1,240	3,130	5,186	6,782	4,881	4,094	3,590	4,691	2,759	1,349	1,067	1,152
MAX	1,930	9,420	18,700	30,600	9,090	6,020	4,550	8,010	3,850	1,740	1,160	1,350
MIN	1,050	1,190	2,400	2,280	3,510	2,820	2,880	2,660	1,840	1,130	1,010	1,040
AC-FT	76,240	186,300	318,900	417,000	271,100	251,700	213,600	288,400	164,200	82,930	65,630	68,550

CAL YR 1966: TOTAL 1,195,742 MEAN 3,276 MAX 49,300 MIN 796 AC-FT 2,372,000
WAT YR 1967: TOTAL 1,212,310 MEAN 3,321 MAX 30,600 MIN 1,010 AC-FT 2,405,000

Peak discharge (base, 13,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0630	12.21	27,000				
1-20	2100	9.76	18,700				
1-28	1300	15.13	38,400				

14-3620. Applegate River near Copper, Oreg.

Location.--Lat 42°03'30", long 123°06'50", in SE¼ sec.25, T.40 S., R.4 W., on right bank 0.2 mile downstream from French Gulch, 1.2 miles (revised) downstream from Squaw Creek, 2.6 miles northeast of Copper, and at mile 46.3.

Drainage area.--223 sq mi.

Records available.--October 1938 to September 1967. Prior to January 1939 monthly discharge only, published in WSP 1318.

Gage.--Digital water-stage recorder. Datum of gage is 1,759.66 ft above mean sea level, datum of 1929. Prior to Apr. 23, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 439 cfs (317,800 acre-ft per year).

Extremes.--Maximum discharge during year, 9,480 cfs Jan. 28 (gage height, 12.98 ft); minimum, 39 cfs Oct. 5-7, 10, 11.

1938-67: Maximum discharge, 29,000 cfs Dec. 22, 1964 (gage height, 26.00 ft, from floodmark), from rating curve extended above 5,300 cfs on basis of three slope-area measurements of peak flows 1950, 1955, 1964; minimum, 20 cfs Sept. 23-25, 1939.

Remarks.--Records good. About 11 cfs diverted for irrigation of 482 acres above station in Applegate River basin; Grand Applegate ditch diverts about 3.3 cfs around station on left bank. As much as 8 cfs is diverted for irrigation into Thompson Creek basin. Several hundred acre-feet normally stored each winter in Squaw Lake (capacity, 1,100 acre-ft) for irrigation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	41	49	1,460	369	1,520	429	482	313	802	244	93	52
2	41	48	1,190	354	1,220	422	463	325	744	226	89	52
3	41	48	956	342	1,070	404	459	353	711	216	87	53
4	40	48	2,000	341	964	390	444	411	760	206	86	54
5	40	48	2,100	337	892	380	440	486	826	194	85	54
6	39	66	1,250	319	838	369	444	548	808	186	82	53
7	40	59	1,010	309	796	363	432	838	778	179	80	53
8	40	54	840	303	755	360	425	1,160	749	173	81	52
9	40	53	774	301	733	369	422	1,280	716	170	79	52
10	40	56	1,070	302	705	404	422	1,020	679	164	78	51
11	40	75	1,110	301	668	369	414	808	642	159	75	53
12	43	99	1,400	299	647	356	400	700	623	154	74	50
13	45	218	2,200	318	657	347	411	647	594	149	73	48
14	45	675	1,770	320	623	340	397	705	586	146	71	46
15	44	1,480	1,300	320	589	347	386	952	570	141	69	46
16	46	1,190	1,130	327	562	1,210	376	1,400	568	137	70	47
17	45	451	1,030	316	575	982	386	1,570	565	131	68	48
18	44	308	930	307	575	844	369	1,450	550	128	67	61
19	44	925	857	333	540	738	360	1,490	573	127	67	52
20	50	1,880	794	788	514	778	350	1,620	532	124	65	50
21	78	1,140	717	849	494	766	347	1,760	463	122	61	49
22	70	742	653	603	478	796	347	1,750	417	120	61	49
23	81	529	608	492	470	940	340	1,640	388	114	60	49
24	65	430	553	447	459	814	344	1,360	363	109	58	47
25	58	379	524	400	447	733	347	1,160	345	107	57	46
26	54	397	486	1,200	429	668	334	1,090	329	106	55	46
27	53	362	453	2,520	418	623	331	1,040	310	104	57	45
28	51	422	430	6,900	411	594	325	1,020	294	103	67	43
29	51	605	416	5,780	------	553	325	946	278	101	61	43
30	50	639	401	2,990	------	536	316	832	264	96	56	44
31	49	------	382	2,000	------	510	------	749	------	94	52	------
TOTAL	1,508	13,475	30,794	31,087	19,049	17,734	11,638	31,423	16,827	4,530	2,184	1,488
MEAN	48.6	449	993	1,003	680	572	388	1,014	561	146	70.5	49.6
MAX	81	1,880	2,200	6,900	1,520	1,210	482	1,760	826	244	93	61
MIN	39	48	382	299	411	340	316	313	264	94	52	43
AC-FT	2,990	26,730	61,080	61,660	37,780	35,170	23,080	62,330	33,380	8,990	4,330	2,950

CAL YR 1966: TOTAL 189,109 MEAN 518 MAX 6,120 MIN 39 AC-FT 375,100
WAT YR 1967: TOTAL 181,737 MEAN 498 MAX 6,900 MIN 39 AC-FT 360,500

Peak discharge (base, 2,000 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-15	2400	5.27	2,320	12-13	1400	6.02	3,060
11-20	0030	5.20	2,380	1-28	0600	12.98	9,480
12- 1	0930	4.85	2,160	5-21	2100	5.13	2,080
12- 4	2030	7.01	3,870				

14-3660. Applegate River near Applegate, Oreg.

Location.--Lat 43°14'30", long 123°08'20", in NE¼ sec.26, T.38 S., R.4 W., on left bank 0.9 mile downstream from Keeler Creek, 1.8 miles southeast of Applegate, and at mile 26.7.

Drainage area.--483 sq mi.

Records available.--October 1938 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,285.33 ft above mean sea level, datum of 1929. Prior to Dec. 23, 1938, staff gage and Dec. 23, 1938 to Oct. 5, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--29 years, 541 cfs (391,700 acre-ft per year).

Extremes.--Maximum discharge during year, 11,500 cfs Jan. 28 (gage height, 10.66 ft); minimum discharge recorded, 22 cfs Sept. 26, 27, but may have been less during period of no gage-height record.

1938-67: Maximum discharge, 45,700 cfs Dec. 22, 1964 (gage height, 19.57 ft), from rating curve extended above 18,000 cfs on basis of average of slope-area measurements of flow at gage heights 18.00 ft and 19.57 ft; minimum, 7.0 cfs Sept. 18, 1945, Aug. 28, 1951, Sept. 15, 1960.

Flood of Feb. 20, 1927, reached a stage of 18.7 ft, from floodmarks.

Remarks.--Records good except those for period of no gage-height record, which are fair. No appreciable regulation. Many diversions for irrigation of about 4,000 acres above station. McDonald Creek Canal diverts from McDonald Creek above station for irrigation in Bear Creek basin. Thompson Creek Irrigation Association ditch diverts as much as 8 cfs for irrigation into Thompson Creek basin. Fowler-Keeler and Berryman ditches divert up to 5.0 and 10.5 cfs, respectively, above station for irrigation of about 800 acres below.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	47	57	1,470	439	2,140	523	622	400	974	293	65	30
2	45	56	1,340	418	1,770	519	590	409	940	265	60	30
3	47	53	1,040	406	1,520	495	579	431	885	249	60	31
4	44	54	2,030	401	1,350	475	567	488	917	236	60	31
5	43	58	3,060	414	1,230	460	554	594	999	220	55	30
6	43	68	1,580	381	1,130	446	568	629	998	210	55	32
7	44	79	1,200	369	1,060	437	560	919	961	195	55	30
8	41	67	1,030	359	1,010	425	543	1,330	940	185	50	30
9	37	65	917	354	957	428	532	1,570	895	175	50	29
10	35	67	1,210	355	917	496	530	1,260	854	165	50	31
11	40	82	1,220	356	870	459	519	980	809	155	50	33
12	44	105	1,600	354	831	437	498	844	784	145	48	30
13	50	195	2,250	373	839	425	500	772	749	140	46	26
14	54	697	2,100	382	804	423	497	806	738	130	44	27
15	54	1,540	1,550	377	744	417	478	1,040	712	125	44	28
16	56	1,620	1,320	383	707	1,580	460	1,560	706	120	42	25
17	56	592	1,160	371	729	1,450	485	1,840	700	115	42	30
18	56	380	1,050	374	765	1,180	473	1,770	674	110	40	43
19	54	744	964	385	725	1,020	459	1,760	656	105	40	46
20	55	2,270	906	913	668	1,030	445	1,890	726	100	38	40
21	87	1,420	828	1,290	639	1,010	432	2,090	614	95	36	37
22	82	905	765	999	617	1,010	435	2,140	543	90	36	35
23	95	641	715	801	602	1,200	434	2,000	502	90	34	36
24	82	513	655	698	589	1,050	439	1,680	469	85	34	39
25	71	442	624	622	572	957	454	1,400	428	80	32	31
26	66	453	580	1,500	539	874	444	1,310	411	80	32	24
27	63	419	538	3,040	519	812	437	1,250	377	75	34	27
28	60	438	511	8,640	509	770	421	1,190	353	75	36	31
29	59	636	493	7,430	------	725	423	1,160	330	70	34	31
30	59	676	479	4,260	------	693	412	1,020	315	70	32	34
31	56	------	454	2,840	------	663	------	927	------	65	30	------
TOTAL	1,725	15,392	35,639	40,284	25,352	22,889	14,790	37,459	20,959	4,313	1,364	957
MEAN	55.6	513	1,150	1,299	905	738	493	1,208	699	139	44.0	31.9
MAX	95	2,270	3,060	8,640	2,140	1,580	622	2,140	999	293	65	46
MIN	35	53	454	354	509	417	412	400	315	65	30	24
AC-FT	3,420	30,530	70,690	79,900	50,280	45,400	29,340	74,300	41,570	8,550	2,710	1,900

CAL YR 1966: TOTAL 220,849 MEAN 605 MAX 9,010 MIN 17 AC-FT 438,000
WAT YR 1967: TOTAL 221,123 MEAN 606 MAX 8,640 MIN 24 AC-FT 438,600

Peak discharge (base, 2,500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11-16	0300	5.16	2,760	12-13	1700	5.49	3,180
11-20	0430	5.08	2,670	1-28	0800	10.66	11,500
12- 4	2400	6.87	5,160	5-21	2330	5.10	2,500

Note.--No gage-height record July 5 to Sept. 1.

14-3715. Grave Creek at Pease Bridge, near Placer, Oreg.

Location.--Lat 42°38'30", long 123°12'40", in SE¼ sec.6, T.34 S., R.4 W., on right bank 0.5 mile downstream from Pease Bridge, 0.5 mile (revised) upstream from Boulder Creek, 5.4 miles east of Placer, and at mile 27.1.

Drainage area.--22.1 sq mi at measuring site 0.5 mile upstream.

Records available.--October 1940 to September 1967. Prior to October 1945 monthly discharge only, published in WSP 1318.

Gage.--Water-stage recorder. Datum of gage is 2,354.2 ft above mean sea level, datum of 1929 (Bureau of Reclamation bench mark). Prior to Aug. 4, 1955, at sites 0.5 mile upstream at datum 29.9 ft higher.

Average discharge.--22 years (1945-67), 59.9 cfs (43,370 acre-ft per year).

Extremes.--Maximum discharge during year, 1,510 cfs Jan. 28 (gage height, 6.00 ft), from rating curve extended above 550 cfs on basis of slope-area measurement at gage height, 9.66 ft; minimum, 0.59 cfs Aug. 28 to Sept. 5, Sept. 16, 17, 28, 29.

1940-67: Maximum discharge, 6,240 cfs Dec. 22, 1964 (gage height, 11.20 ft), from rating curve extended above 550 cfs on basis of slope-area measurement at gage height, 9.66 ft; minimum, 0.20 cfs Aug. 15, 1964.

Remarks.--Records good. No regulation. One small diversion above station. Prior to 1945, Columbia upper ditch diverted water about 2 miles above station, bypassing station. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1.4	2.3	220	21	189	51	60	43	27	4.5	1.4	.62
2	1.3	2.3	205	20	148	50	68	43	26	4.1	1.3	.62
3	1.3	2.3	167	19	123	46	77	45	23	3.8	1.2	.64
4	1.3	2.2	398	20	111	41	81	48	21	3.5	1.1	.66
5	1.2	2.2	377	21	106	38	81	51	19	3.3	1.1	.66
6	1.1	5.0	205	20	96	35	83	53	18	3.3	1.3	.67
7	1.2	4.2	162	19	86	34	80	60	16	3.4	1.4	.69
8	1.2	3.7	127	17	77	32	77	62	15	3.4	1.4	.70
9	1.3	3.4	119	18	69	33	69	74	15	3.3	1.2	.69
10	1.3	7.3	294	20	63	37	62	80	14	3.2	1.1	.74
11	1.3	30	292	28	58	33	56	74	13	3.1	1.0	.98
12	1.7	25	362	34	53	32	50	71	13	2.9	.98	1.1
13	2.7	38	380	36	58	31	51	63	12	2.8	.93	.93
14	2.3	311	273	36	53	31	49	57	11	2.7	.88	.81
15	2.2	656	180	33	46	40	45	56	10	2.6	.83	.72
16	2.1	356	135	31	44	227	45	56	9.6	2.5	.81	.66
17	1.9	137	104	28	80	187	47	54	9.0	2.4	.77	.84
18	1.8	78	81	25	129	141	49	49	8.5	2.4	.75	1.3
19	1.7	111	66	31	109	109	50	45	7.9	2.4	.72	1.1
20	3.7	255	57	169	90	160	50	40	7.6	2.4	.67	1.0
21	9.5	210	48	125	77	167	49	36	7.4	2.5	.66	.90
22	14	133	40	84	69	148	52	34	7.7	2.4	.67	.83
23	11	95	35	66	65	150	52	31	8.0	2.3	.71	.82
24	6.3	71	31	62	61	125	53	29	7.3	2.1	.70	.78
25	4.8	60	32	60	57	102	58	26	6.6	2.0	.71	.72
26	3.7	63	28	152	51	83	58	24	6.2	2.0	.72	.69
27	3.2	66	24	468	46	71	57	22	5.9	1.9	.73	.67
28	2.6	111	22	985	45	65	53	22	5.6	1.8	.73	.64
29	2.1	162	20	776	------	60	50	21	5.2	1.6	.67	.69
30	2.4	135	21	395	------	57	46	23	4.8	1.5	.65	.86
31	2.3	------	20	260	------	56	------	28	------	1.5	.64	------
TOTAL	95.9	3,137.9	4,525	4,079	2,259	2,472	1,758	1,420	360.3	83.6	28.43	23.73
MEAN	3.09	105	146	132	80.7	79.7	58.6	45.8	12.0	2.70	.92	.79
MAX	14	656	398	985	189	227	83	80	27	4.5	1.4	1.3
MIN	1.1	2.2	20	17	44	31	45	21	4.8	1.5	.64	.62
CFSM	.14	4.73	6.60	5.95	3.65	3.61	2.65	2.07	.54	.12	.04	.04
IN.	.16	5.28	7.61	6.86	3.80	4.16	2.96	2.39	.61	.14	.05	.04
AC-FT	190	6,220	8,980	8,090	4,480	4,900	3,490	2,820	715	166	56	47

CAL YR 1966: TOTAL 25,704.08 MEAN 70.4 MAX 784 MIN .38 CFSM 3.19 IN 43.25 AC-FT 50,980
WAT YR 1967: TOTAL 20,242.86 MEAN 55.5 MAX 985 MIN .62 CFSM 2.51 IN 34.06 AC-FT 40,150

Peak discharge (base, 850 cfs).--Jan. 28 (0530 hrs) 1,510 cfs (6.00 ft).

14-3723. Rogue River near Agness, Oreg.

Location (revised).--Lat 42°34'50", long 124°03'30", in NE¼NW¼ sec.6, T.35 S., R.11 W., on left bank 0.8 mile upstream from Shasta Costa Creek, 1.5 miles north of Agness, 2.6 miles upstream from Illinois River, and at mile 29.7.

Drainage area.--3,939 sq mi.

Records available.--October 1960 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 115 ft (from river-profile map). Oct. 8, 1960 to Aug. 10, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--7 years, 6,349 cfs (4,596,000 acre-ft per year).

Extremes.--Maximum discharge during year, 87,600 cfs Jan. 28 (gage height, 21.36 ft); minimum, 964 cfs Sept. 3.

1960-67: Maximum discharge, 290,000 cfs Dec. 23, 1964, from slope-area measurement; maximum gage height, 68.03 ft, from flood-mark (backwater from Illinois River); minimum discharge, 860 cfs Sept. 22, 1962.

Remarks.--Records good. Occasional diurnal fluctuation caused by powerplants upstream; slight regulation by Fish Lake and Emigrant Lake. Many diversions for irrigation and mining. Records of water temperatures for the water year 1967 are published in Part 2 of this report.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,220	1,370	8,020	3,890	21,800	5,500	7,280	5,600	5,640	2,350	1,300	1,030
2	1,210	1,360	16,400	3,800	16,900	5,960	6,800	5,300	5,620	2,260	1,220	1,010
3	1,200	1,320	14,100	3,860	14,100	5,800	6,550	4,610	5,500	2,210	1,190	1,020
4	1,180	1,320	16,500	3,720	12,200	5,440	6,780	5,140	5,040	2,090	1,180	1,080
5	1,160	1,340	38,800	4,270	11,000	5,160	5,860	5,320	4,900	2,000	1,160	1,140
6	1,150	1,330	27,200	4,410	10,000	4,940	6,600	5,520	4,940	1,930	1,190	1,110
7	1,140	1,420	18,600	4,180	9,160	4,790	7,150	5,680	4,900	1,900	1,270	1,100
8	1,130	1,620	18,500	4,000	8,450	4,340	6,850	6,280	4,830	1,860	1,230	1,100
9	1,160	1,420	14,200	3,870	7,950	4,560	6,520	7,480	4,670	1,860	1,260	1,100
10	1,160	1,440	18,000	3,860	7,380	5,360	6,180	10,300	4,490	1,850	1,210	1,100
11	1,170	1,540	18,900	4,070	7,000	6,620	6,100	10,600	4,400	1,840	1,190	1,110
12	1,170	2,440	18,000	4,410	6,600	5,900	5,820	9,050	4,290	1,730	1,160	1,180
13	1,240	3,240	18,700	4,610	6,550	5,500	5,740	8,100	4,160	1,670	1,170	1,220
14	1,290	6,640	21,700	4,960	7,480	5,500	6,080	7,380	4,000	1,620	1,130	1,190
15	1,300	14,000	16,100	5,120	7,650	5,920	6,000	6,380	3,860	1,560	1,140	1,120
16	1,290	22,200	12,200	4,770	8,020	11,900	6,060	7,250	3,790	1,520	1,090	1,100
17	1,330	11,800	10,100	4,590	9,050	16,700	6,580	8,400	3,630	1,570	1,060	1,100
18	1,390	6,250	8,780	4,360	12,500	13,400	7,500	9,160	3,770	1,570	1,070	1,180
19	1,450	7,200	7,800	4,410	10,800	11,900	8,100	9,020	3,770	1,500	1,000	1,320
20	1,510	12,800	7,150	13,300	9,020	12,200	7,300	9,020	3,740	1,500	1,000	1,370
21	1,550	23,900	6,650	31,900	8,100	12,700	6,780	8,900	4,070	1,480	1,040	1,330
22	1,920	15,300	6,000	21,000	7,550	11,400	6,350	9,160	3,790	1,460	1,010	1,300
23	1,880	9,370	5,660	13,400	7,120	12,000	6,020	9,050	3,470	1,450	1,020	1,230
24	2,050	6,800	5,340	10,800	6,820	13,300	6,100	8,650	3,280	1,430	1,020	1,220
25	2,200	5,460	5,020	12,100	6,580	11,300	6,100	7,820	2,920	1,400	1,030	1,200
26	1,720	4,860	4,940	23,200	6,320	9,790	6,450	6,850	2,880	1,370	1,050	1,150
27	1,520	4,740	4,670	44,100	5,920	8,680	6,700	6,380	2,800	1,390	1,090	1,150
28	1,520	4,700	4,380	74,700	5,660	8,020	6,900	6,080	2,530	1,340	1,150	1,130
29	1,390	5,860	4,160	72,000	------	7,650	6,120	6,020	2,490	1,340	1,140	1,120
30	1,400	7,100	4,040	44,000	------	7,580	5,840	6,180	2,410	1,330	1,090	1,120
31	1,390	------	4,000	29,700	------	7,620	------	5,780	------	1,310	1,050	------
TOTAL	43,390	190,140	384,610	471,360	257,680	257,430	195,210	226,460	120,580	51,690	34,910	34,630
MEAN	1,400	6,338	12,410	15,210	9,203	8,304	6,507	7,305	4,019	1,667	1,126	1,154
MAX	2,200	23,900	38,800	74,700	21,800	16,700	8,100	10,600	5,640	2,350	1,300	1,370
MIN	1,130	1,320	4,000	3,720	5,660	4,340	5,740	4,610	2,410	1,310	1,000	1,010
AC-FT	86,060	377,100	762,900	934,900	511,100	510,600	387,200	449,200	239,200	102,500	69,240	68,690

CAL YR 1966: TOTAL 2,567,654 MEAN 7,035 MAX 147,000 MIN 907 AC-FT 5,093,000
WAT YR 1967: TOTAL 2,268,090 MEAN 6,214 MAX 74,700 MIN 1,000 AC-FT 4,499,000

Peak discharge (base, 35,000 cfs).--Dec. 5 (1700 hrs) 50,200 cfs (15.68 ft); Jan. 28 (2000 hrs) 87,600 cfs (21.36 ft).

14-3725. East Fork Illinois River near Takilma, Oreg.

Location.--Lat 42°00'10", long 123°37'30", in SE¼NE¼ sec.15, T.41 S., R.8 W., on right bank 0.3 mile downstream from Dunn Creek (California-Oregon State line), 3.4 miles south of Takilma, and at mile 71.2.

Drainage area.--42.3 sq mi.

Records available.--April to September 1926, April 1927 to April 1932, October 1940 to September 1967. Monthly discharge only for some periods, published in WSP 1318. Records prior to 1942 water year not equivalent owing to large diversions.

Gage.--Digital water-stage recorder. Altitude of gage is 1,780 ft (from topographic map). Prior to Oct. 31, 1946, staff gage at sites 0.6 mile downstream at different datums. Oct. 31, 1946, to May 13, 1949, staff gage and May 14, 1949, to Aug. 23, 1965, graphic water-stage recorder at site 0.6 mile downstream at datum 1,746.6 ft above mean sea level. Aug. 24, 1965, to Sept. 27, 1966, graphic water-stage recorder at present site and datum.

Average discharge.--26 years (1941-67) 184 cfs (133,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,460 cfs Jan. 28 (gage height, 8.59 ft); minimum, 8.2 cfs Sept. 28, 29.

1926-32, 1940-67: Maximum discharge, 15,700 cfs Dec. 22, 1964 (gage height, 14.90 ft, present site and datum, from floodmark), from rating curve extended above 4,400 cfs on basis of slope-area measurement of peak flow; minimum, 4.6 cfs Nov. 3, 1960.

Remarks.--Records good. No regulation. Two small diversions for irrigation above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	9.5	10	664	77	458	112	128	104	140	39	17	11
2	9.5	10	476	74	355	117	121	112	145	37	16	11
3	9.2	10	311	71	291	108	121	138	140	35	16	10
4	9.2	9.5	839	74	253	98	119	178	148	34	16	10
5	8.9	9.5	922	73	228	92	123	217	163	32	15	10
6	8.9	17	504	69	211	86	130	246	160	31	15	10
7	9.2	15	484	66	203	83	145	358	148	30	15	10
8	9.2	12	432	65	192	81	160	470	135	30	15	10
9	9.2	12	324	66	178	92	155	478	133	29	14	10
10	8.9	12	552	69	165	176	153	355	123	28	14	10
11	8.9	15	610	74	153	148	143	271	115	27	14	10
12	9.2	32	770	79	140	123	130	231	108	26	13	9.5
13	10	94	990	82	148	110	140	217	100	25	13	9.5
14	9.5	372	745	86	135	104	140	231	100	25	13	9.4
15	9.5	955	428	89	138	123	133	315	104	24	13	9.0
16	9.5	614	314	91	138	940	128	434	104	23	12	9.0
17	9.2	215	266	86	145	602	138	431	104	23	12	11
18	9.2	135	227	81	160	470	135	366	96	22	12	13
19	8.9	448	203	107	158	355	126	351	89	22	12	11
20	28	1,020	183	755	135	384	119	377	79	22	12	10
21	30	650	165	735	130	369	117	392	71	21	12	9.9
22	24	328	146	400	121	366	119	373	64	21	12	9.5
23	25	200	135	251	117	530	117	322	58	20	12	9.6
24	17	150	122	224	112	434	115	268	56	19	11	9.1
25	14	124	118	224	108	322	126	231	54	19	11	8.9
26	12	141	109	1,340	100	256	126	214	52	19	11	8.7
27	12	139	100	1,900	96	217	128	200	48	19	11	8.5
28	11	176	94	2,400	94	197	123	205	45	18	11	8.5
29	11	251	89	1,860	------	168	117	192	43	18	11	8.3
30	10	245	86	976	------	155	108	158	42	17	11	8.9
31	10	------	81	670	------	143	------	135	------	17	11	------
TOTAL	379.6	6,421.0	11,489	13,214	4,862	7,561	3,883	8,570	2,967	772	403	293.3
MEAN	12.2	214	371	426	174	244	129	276	98.9	24.9	13.0	9.78
MAX	30	1,020	990	2,400	458	940	160	478	163	39	17	13
MIN	8.9	9.5	81	65	94	81	108	104	42	17	11	8.3
AC-FT	753	12,740	22,790	26,210	9,640	15,000	7,700	17,000	5,880	1,530	799	582

CAL YR 1966: TOTAL 78,377.4 MEAN 215 MAX 3,980 MIN 8.9 AC-FT 155,500
WAT YR 1967: TOTAL 60,814.9 MEAN 167 MAX 2,400 MIN 8.3 AC-FT 120,600

Peak discharge (base, 2,500 cfs).--Jan. 28 (0500 hrs) 3,460 cfs (8.59 ft).

Note.--No gage-height record Aug. 20 to Sept. 13.

14-3751. Sucker Creek below Little Grayback Creek, near Holland, Oreg.

Location.--Lat 42°09'35", long 123°28'40", in NE¼SW¼ sec.24, T.39 S., R.7 W., on right bank 500 ft downstream from Little Grayback Creek, 2.0 miles downstream from Grayback Creek, 3.7 miles northeast of Holland, and at mile 9.3.

Drainage area.--83.9 sq mi.

Records available.--October 1965 to September 1967.

Gage.--Digital water-stage recorder. Altitude of gage is 1,700 ft (from topographic map). Oct. 1, 1965, to Sept. 27, 1966, graphic water-stage recorder at present site and datum.

Extremes.--Maximum discharge during the year, 5,580 cfs Jan. 28 (gage-height, 6.65 ft); minimum, 26 cfs, Oct. 6, 10, 11, 18-20.

1965-67: Maximum discharge, 5,580 cfs Jan. 28, 1967 (gage-height, 6.65 ft); minimum, 26 cfs Oct. 6, 10, 11, 18-20, 1966.

Maximum stage known since at least 1940, 10.8 ft on Dec. 22, 1964, from floodmark (discharge, 19,300 cfs), from estimate of peak based on slope-area measurement of peak flow at site 0.7 miles upstream.

Remarks.--Records good. Grayback Canal and 3 small diversions from Grayback and Cave Creeks divert water for domestic use and irrigation above station. Return flow from these diversions enters creek above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	28	28	754	156	973	253	311	253	429	153	77	39
2	28	28	555	150	754	243	305	259	404	147	75	39
3	28	27	384	147	614	234	305	282	373	140	73	38
4	28	27	1,040	150	525	229	305	311	396	131	70	38
5	27	27	1,040	150	461	219	311	339	421	129	69	37
6	27	38	544	144	445	215	325	359	404	124	69	37
7	27	34	498	140	429	205	339	453	388	124	67	36
8	27	30	453	137	388	205	339	544	373	124	64	36
9	27	30	366	137	373	210	325	655	359	121	63	36
10	27	35	516	140	359	239	325	594	339	121	62	37
11	27	49	614	144	339	224	311	498	325	116	60	39
12	28	71	801	147	325	219	294	445	305	113	59	37
13	30	128	1,210	150	325	219	294	421	294	111	57	36
14	29	346	960	150	305	215	288	421	288	108	56	35
15	29	885	624	150	299	234	282	507	288	106	55	35
16	29	700	479	147	294	1,600	282	699	282	104	55	35
17	28	300	396	144	305	825	294	754	276	102	54	39
18	27	180	339	140	318	624	294	721	259	98	53	42
19	26	300	305	160	305	525	288	732	242	98	52	37
20	49	1,100	282	489	288	516	288	801	224	95	51	36
21	55	800	253	470	276	516	288	898	210	93	49	36
22	47	350	234	305	270	525	288	885	193	93	49	35
23	45	213	224	243	265	666	288	789	182	89	48	35
24	37	170	205	229	259	573	294	655	189	85	47	34
25	32	146	201	215	259	507	299	573	182	85	45	34
26	30	170	189	1,210	248	461	294	535	182	85	45	33
27	30	155	182	2,530	239	429	288	498	174	85	46	33
28	30	201	174	4,260	234	404	276	498	170	84	43	33
29	29	261	170	3,630	------	366	270	461	163	82	41	33
30	29	248	166	2,070	------	352	265	421	160	80	41	34
31	28	------	160	1,340	------	332	------	380	------	79	40	------
TOTAL	968	7,078	14,318	19,774	10,474	12,584	8,955	16,641	8,474	3,305	1,735	1,084
MEAN	31.2	236	462	638	374	406	299	537	282	107	56.0	36.1
MAX	55	1,100	1,210	4,260	973	1,600	339	898	429	153	77	42
MIN	26	27	160	137	234	205	265	253	160	79	40	33
AC-FT	1,920	14,040	28,400	39,220	20,770	24,960	17,760	33,010	16,810	6,560	3,440	2,150

CAL YR 1966: TOTAL 97,940 MEAN 268 MAX 3,470 MIN 26 AC-FT 194,300
WAT YR 1967: TOTAL 105,390 MEAN 289 MAX 4,260 MIN 26 AC-FT 209,000

Peak discharge (base, 1,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2030	5.01	2,270				
1-28	0600	6.65	5,580				
3-16	0930	5.30	2,690				

14-3755. West Fork Illinois River below Rock Creek, near O'Brien, Oreg.

Location.--Lat 42°02'20", long 123°44'50", in SW¼SE¼ sec.34, T.40 S., R.9 W., on left bank 900 ft downstream from Rock Creek, 3 miles southwest of O'Brien, and at mile 12.8.

Drainage area.--42.4 sq mi.

Records available.--September 1954 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,516.14 ft above mean sea level, datum of 1929, supplementary adjustment of 1947. Prior to Oct. 5, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--13 years, 219 cfs (158,500 acre-ft per year).

Extremes.--Maximum discharge during year, 3,830 cfs Jan. 28 (gage height, 9.97 ft); minimum, 4.8 cfs Oct. 14, 15.

1954-67: Maximum discharge, 16,100 cfs Dec. 22, 1964 (gage height, 16.05 ft), from rating curve extended above 6,200 cfs, on basis of slope-area measurement at gage height 14.79 ft; minimum, 3.2 cfs Sept. 23, 1957, Aug. 12, 1959.

Remarks.--Records good. Occasional diurnal fluctuation caused by logpond upstream. Three small diversions from Elk Creek for irrigation of 37 acres above station.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.7	7.0	655	74	644	116	186	178	61	20	8.8	4.7
2	5.6	7.1	674	69	496	114	183	182	58	19	8.1	4.7
3	5.6	7.4	540	65	391	103	187	189	52	18	8.3	4.7
4	5.5	7.2	1,440	69	315	95	179	196	50	18	7.8	4.7
5	5.4	7.3	1,570	75	257	88	191	196	48	17	7.8	4.7
6	5.2	13	900	70	221	83	221	194	46	17	7.8	4.7
7	5.4	12	944	69	196	78	242	197	45	17	7.6	4.9
8	5.5	9.3	868	67	177	75	227	186	43	16	7.6	4.9
9	5.4	8.1	696	66	160	91	203	205	42	16	7.3	4.9
10	5.4	8.1	1,180	67	148	229	186	237	40	16	7.1	5.3
11	5.4	9.7	1,060	75	139	182	170	275	39	15	6.1	6.1
12	5.6	36	991	82	128	171	154	244	44	15	5.7	5.9
13	5.9	88	1,130	84	143	156	191	212	42	15	5.7	5.5
14	5.5	857	896	81	141	152	239	184	37	14	6.6	5.3
15	5.0	1,840	514	75	174	221	239	165	36	14	5.9	5.7
16	5.1	978	350	70	205	1,200	250	151	34	13	5.7	5.3
17	5.2	317	260	66	266	836	298	139	33	13	5.5	6.4
18	5.5	166	205	62	313	728	280	120	31	13	5.1	9.1
19	5.7	354	170	104	240	529	242	105	30	13	5.1	7.3
20	15	1,100	147	1,850	194	796	215	96	30	12	5.1	6.4
21	21	1,030	127	1,550	167	644	208	88	29	11	5.1	6.1
22	22	490	113	696	152	493	205	81	28	11	5.1	5.9
23	17	288	121	427	144	800	196	75	27	11	5.1	5.7
24	12	195	112	395	137	648	197	73	26	11	4.9	5.5
25	10	146	114	644	128	451	227	68	25	11	4.9	5.3
26	9.2	154	110	3,000	116	330	240	65	23	11	4.9	5.1
27	8.6	147	101	2,950	108	259	248	62	22	10	5.3	4.9
28	8.2	170	93	2,800	101	227	237	62	22	10	4.9	4.7
29	7.8	223	88	2,190	------	197	212	60	21	9.7	4.7	4.5
30	6.7	181	82	1,170	------	203	189	60	20	9.1	4.9	5.5
31	6.9	------	77	888	------	199	------	59	------	9.1	4.5	------
TOTAL	248.0	8,856.2	16,328	19,950	6,001	10,494	6,442	4,404	1,084	424.9	189.0	164.4
MEAN	8.00	295	527	644	214	339	215	142	36.1	13.7	6.10	5.48
MAX	22	1,840	1,570	3,000	644	1,200	298	275	61	20	8.8	9.1
MIN	5.0	7.0	77	62	101	75	154	59	20	9.1	4.5	4.5
CFSM	.19	6.96	12.4	15.2	5.05	7.98	5.06	3.35	.85	.32	.14	.13
IN.	.22	7.77	14.3	17.5	5.26	9.20	5.65	3.86	.95	.37	.17	.14
AC-FT	492	17,570	32,390	39,570	11,900	20,810	12,780	8,740	2,150	843	375	326

CAL YR 1966: TOTAL 84,007.0 MEAN 230 MAX 6,000 MIN 3.7 CFSM 5.43 IN 73.68 AC-FT 166,600
WAT YR 1967: TOTAL 74,585.5 MEAN 204 MAX 3,000 MIN 4.5 CFSM 4.82 IN 65.42 AC-FT 147,900

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 4	2130	8.82	2,630				
1-20	1700	8.99	2,860				
1-28	0430	9.97	3,830				

14-3771. Illinois River near Kerby, Oreg.

Location.--Lat 42°13'55", long 123°39'45", in SE¼SE¼ sec.29, T.38 S., R.8 W., on right bank 1.6 miles upstream from Josephine Creek, 2.5 miles northwest of Kerby, and at mile 50.3.

Drainage area.--380 sq mi.

Records available.--October 1961 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 1,198.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to Jan. 28, 1965, graphic water-stage recorder at site 700 ft downstream at datum 2.99 ft lower. Jan. 28 to Sept. 30, 1965, staff gage at site 700 ft downstream at datum 2.99 ft lower.

Average discharge.--6 years, 1,331 cfs (963,600 acre-ft per year).

Extremes.--Maximum discharge during year, 23,200 cfs Jan. 28 (gage height, 23.82 ft); minimum, 31 cfs Aug. 23-27, Sept. 5-7, 9, 10.

1961-67: Maximum discharge, 92,200 cfs Dec. 22, 1964 (gage height, 45.28 ft, from floodmark, site and datum then in use), from rating curve extended above 30,000 cfs on basis of slope-area measurement of peak flow; minimum, 23 cfs Aug. 11, Sept. 9, 10, 1966.

Remarks.--Records good. No regulation. Diversions for irrigation of about 5,500 acres above station. Some diversions for mining and logpond operation.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	55	81	4,000	745	4,430	921	1,370	1,080	791	213	67	35
2	52	79	4,030	705	3,500	980	1,290	1,100	804	194	68	35
3	49	79	3,210	672	2,840	903	1,280	1,180	748	168	63	34
4	52	77	5,870	672	2,370	841	1,270	1,280	733	145	61	33
5	52	82	9,610	787	2,050	791	1,270	1,380	771	130	59	32
6	56	87	5,120	705	1,870	752	1,380	1,430	748	124	55	31
7	61	99	5,040	684	1,720	714	1,490	1,660	727	119	58	33
8	55	99	4,720	663	1,590	690	1,470	1,960	699	112	60	32
9	55	91	3,700	648	1,480	687	1,380	2,190	669	112	61	32
10	57	87	6,380	660	1,380	1,430	1,300	2,070	642	110	57	33
11	56	93	5,420	700	1,280	1,330	1,260	1,820	619	109	54	36
12	58	119	6,240	710	1,200	1,230	1,140	1,640	591	110	54	40
13	61	270	6,760	717	1,270	1,140	1,250	1,510	572	106	52	39
14	64	5,000	5,950	717	1,340	1,070	1,600	1,430	537	99	48	38
15	66	9,000	3,810	702	1,510	1,210	1,530	1,530	523	92	44	38
16	66	6,000	2,830	681	1,600	5,790	1,480	1,830	511	88	45	36
17	66	2,000	2,320	657	1,630	4,770	1,780	1,950	500	87	45	39
18	65	1,200	1,960	634	1,800	4,070	1,680	1,780	488	86	40	46
19	64	2,500	1,730	672	1,650	3,100	1,540	1,670	458	89	38	47
20	68	6,000	1,570	7,060	1,460	4,040	1,400	1,700	442	87	39	49
21	87	5,500	1,410	8,030	1,310	3,690	1,350	1,750	406	82	40	49
22	104	2,840	1,260	4,160	1,210	3,010	1,320	1,690	377	80	37	49
23	104	2,150	1,230	2,690	1,130	4,250	1,270	1,550	355	79	33	50
24	100	1,600	1,150	2,350	1,080	3,680	1,260	1,330	339	76	35	50
25	93	1,300	1,090	3,220	1,030	2,770	1,330	1,130	319	73	33	48
26	88	1,400	1,040	12,200	973	2,230	1,360	1,040	306	73	31	43
27	84	1,300	970	17,600	910	1,890	1,410	966	292	71	32	42
28	83	1,500	907	18,400	879	1,730	1,330	924	257	71	37	41
29	82	2,300	858	14,500	------	1,560	1,250	928	228	70	35	40
30	81	1,800	817	8,080	------	1,550	1,150	834	220	71	35	39
31	80	------	771	5,930	------	1,490	------	791	------	66	35	------
TOTAL	2,164	54,733	101,773	117,351	46,492	64,309	41,190	45,123	15,672	3,192	1,451	1,189
MEAN	69.8	1,824	3,283	3,786	1,660	2,074	1,373	1,456	522	103	46.8	39.6
MAX	104	9,000	9,610	18,400	4,430	5,790	1,780	2,190	804	213	68	50
MIN	49	77	771	634	879	687	1,140	791	220	66	31	31
AC-FT	4,290	108,600	201,900	232,800	92,220	127,600	81,700	89,500	31,080	6,330	2,880	2,360

CAL YR 1966: TOTAL 565,020 MEAN 1,548 MAX 33,100 MIN 24 AC-FT 1,121,000
WAT YR 1967: TOTAL 494,639 MEAN 1,355 MAX 18,400 MIN 31 AC-FT 981,100

Peak discharge (base, 11,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12- 5	0100	19.04	14,400				
1-20	2000	17.63	12,100				
1-28	0900	23.82	23,200				

14-3780. Illinois River near Selma, Oreg.

Location (revised).--Lat 42°22'45", long 123°48'40", in SW¼ sec.6, T.37 S., R.9 W., on right bank 0.1 mile upstream from Panther Creek, 0.2 mile downstream from Briggs Creek, 12 miles northwest of Selma, and at mile 32.3.

Drainage area.--665 sq mi, includes that of Panther Creek.

Records available.--October 1956 to September 1967.

Gage.--Water-stage recorder. Datum of gage is 829.18 ft above mean sea level, datum of 1929, supplementary adjustment of 1947.

Average discharge.--11 years, 3,335 cfs (1,690,000 acre-ft per year).

Extremes.--Maximum discharge during year, 38,500 cfs Jan. 28 (gage height, 17.40 ft); minimum, 76 cfs Sept. 10, 11, 16, 17.

1956-67: Maximum discharge, 160,000 cfs Dec. 22, 1964 (gage height, 34.0 ft, from floodmark), from rating curve extended above 33,000 cfs on basis of slope-area measurement at gage height 25.64 ft, and comparison of peak flows at station near Kerby and Rogue River near Agness; minimum, 61 cfs Aug. 28, Sept. 2, 1959.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation. Many diversions above station for irrigation, mining, and longpond operation. Records of water temperatures for the water year 1967 are published in Part 2 of this report. Records include flow of Panther Creek.

Discharge, in cubic feet per second, water year October 1966 to September 1967

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	148	7.000	1.230	7.850	1.450	2.470	1.890	1.120	332	131	84
2	97	148	7.000	1.150	6.230	1.530	2.340	1.910	1.170	319	131	84
3	94	146	5.500	1.110	4.810	1.450	2.330	2.060	1.080	293	127	84
4	92	145	10.000	1.090	4.170	1.360	2.340	2.220	1.050	268	123	82
5	93	145	17.000	1.250	3.770	1.260	2.330	2.370	1.070	247	120	79
6	93	154	9.000	1.160	3.380	1.190	2.390	2.400	1.040	238	120	80
7	101	162	8.500	1.130	3.040	1.140	2.560	2.700	1.040	235	118	78
8	102	169	8.000	1.090	2.740	1.090	2.560	3.120	1.030	226	118	78
9	97	167	6.500	1.080	2.620	1.090	2.410	3.390	1.010	220	121	78
10	97	165	11.000	1.080	2.300	1.900	2.250	3.540	998	217	123	76
11	98	167	9.500	1.100	2.080	1.930	2.200	3.110	968	209	116	80
12	101	210	11.000	1.160	1.960	1.800	1.990	2.680	920	209	114	84
13	105	541	12.000	1.180	2.000	1.730	2.050	2.460	965	206	112	85
14	107	7.500	10.000	1.190	2.140	1.680	2.700	2.330	815	200	111	84
15	107	15.000	7.170	1.170	2.250	1.970	2.680	2.430	770	189	105	78
16	109	11.000	5.310	1.150	2.470	9.230	2.640	2.760	713	181	101	76
17	110	5.000	4.120	1.090	2.570	8.580	3.120	2.960	699	175	101	78
18	110	2.000	3.390	1.050	2.920	6.980	3.040	2.720	676	175	101	91
19	110	5.000	2.940	1.140	2.790	5.420	2.790	2.500	657	173	96	94
20	139	10.000	2.670	10.900	2.470	7.140	2.560	2.450	616	175	91	91
21	188	9.000	2.400	14.100	2.200	6.960	2.450	2.460	577	170	91	91
22	222	5.000	2.110	7.420	2.010	5.750	2.440	2.390	538	165	91	91
23	214	3.500	2.020	4.890	1.910	7.630	2.370	2.210	509	163	90	91
24	195	2.800	1.920	4.120	1.820	6.780	2.330	1.990	485	158	88	91
25	181	2.200	1.800	6.320	1.690	5.290	2.390	1.700	462	153	86	90
26	169	2.400	1.710	21.200	1.580	4.150	2.450	1.530	447	151	85	86
27	159	2.200	1.600	31.000	1.490	3.510	2.470	1.460	428	148	85	82
28	157	2.600	1.510	34.400	1.430	3.250	2.340	1.310	400	142	85	80
29	154	3.800	1.430	28.200		3.080	2.210	1.320	355	140	86	80
30	153	3.200	1.350	16.700	- - - - -	2.910	2.020	1.240	349	140	85	80
31	153	- - - - -	1.260	10.500	- - - - -	2.700	- - - - -	1.190	- - - - -	133	85	- - - - -
Total	4.008	94.667	176.710	211.350	78.690	111.930	73.220	70.800	22.957	6.150	3.237	2.506
Mean	129	3,156	5,700	6,818	2,810	3,611	2,441	2,284	765	198	104	83.5
Max	222	15,000	17,000	34,400	7,850	9,230	3,120	3,540	1,170	332	131	94
Min	92	145	1,260	1,050	1,430	1,090	1,990	1,190	349	133	85	76
Ac-ft	7,950	187,800	350,500	419,200	156,100	222,000	145,200	140,400	45,530	12,200	6,420	4,970

Cal yr 1966: Total 975,508 Mean 2,673 Max 60,000 Min 71 Ac-ft 1,935,000
Wtr yr 1967: Total 856,225 Mean 2,346 Max 34,400 Min 76 Ac-ft 1,698,000

Peak discharge (base, 20,000 cfs).--Dec. 5 (0300 hrs) 28,500 cfs (15.40 ft); Jan. 28 (1100 hrs) 38,500 cfs (17.40 ft).

14-3782. Illinois River near Agness, Oreg.

Location (revised).--Lat 42°31'15", long 124°02'35", in SW¼NW¼ sec.29, T.35 S., R.11 W., on right bank 0.6 mile downstream from Lawson Creek, 1.4 miles upstream from Fox Creek, 2.8 miles southeast of Agness, and at mile 3.0.

Drainage area.--988 sq mi, at cable section 2.1 miles downstream where all measurements are made.

Records available.--October 1960 to September 1967.

Gage.--Digital water-stage recorder. Datum of gage is 125.86 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Oct. 1, 1960 to Sept. 13, 1967, graphic water-stage recorder at present site and datum.

Average discharge.--7 years, 4,346 cfs (3,146,000 acre-ft per year).

Extremes.--Maximum discharge during year 66,400 cfs Jan. 28 (gage height, 21.05 ft), from rating curve extended above 20,000 cfs by logarithmic plotting; minimum, 165 cfs Sept. 29.

1960-67: Maximum discharge, 225,000 cfs Dec. 22, 1964, estimated on basis of runoff ratio with station near Selma; maximum gage height, 56.91 ft Dec. 22, 1964, from floodmark (backwater from Rogue River); minimum discharge, 148 cfs Sept. 26-30, Oct. 1, 5, 1964.

Remarks.--Records good. No regulation. Many diversions above station for irrigation, mining, and logpond operation. Records include flow of Fox Creek. All records given herein are for measuring site.

DISCHARGE, IN CFS, WATER YEAR OCTOBER 1966 TO SEPTEMBER 1967

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	216	270	9,800	1,540	14,700	3,750	5,340	4,110	2,420	660	298	183
2	209	262	22,100	1,460	11,900	3,800	5,010	4,130	2,450	636	292	180
3	206	262	17,600	1,400	10,000	3,670	4,870	4,450	2,260	612	284	180
4	198	258	30,100	1,410	8,810	3,340	4,790	4,790	2,170	588	284	177
5	195	262	37,300	1,600	7,920	3,130	4,740	5,010	2,150	552	267	174
6	195	298	21,400	1,540	7,230	2,980	4,810	5,170	2,080	500	267	174
7	195	302	17,300	1,450	6,660	2,850	5,080	5,800	2,000	490	264	171
8	209	298	16,100	1,410	6,160	2,730	5,060	6,380	1,900	485	260	174
9	206	298	11,600	1,390	5,670	2,730	4,870	6,680	1,820	470	256	171
10	195	302	22,300	1,400	5,190	3,840	4,870	6,550	1,760	460	256	174
11	195	420	20,000	1,460	4,870	4,110	4,700	6,000	1,660	455	253	189
12	202	752	26,000	1,560	4,580	3,840	4,180	5,500	1,620	440	250	192
13	216	3,270	26,800	1,660	4,610	3,750	4,430	5,120	1,700	425	242	189
14	220	12,700	23,000	1,650	4,700	4,060	5,410	5,010	1,500	410	239	186
15	220	25,600	12,500	1,560	4,830	5,060	5,470	5,190	1,300	402	228	183
16	216	22,500	8,300	1,510	5,210	16,200	5,690	5,720	1,300	386	225	177
17	216	8,200	6,020	1,450	5,650	16,400	6,400	5,890	1,200	378	222	171
18	209	4,480	4,800	1,390	6,350	13,800	6,200	5,520	1,200	370	222	201
19	209	9,930	4,200	1,540	6,130	10,500	5,670	5,100	1,100	370	216	201
20	262	17,400	3,700	14,200	5,450	12,800	5,190	4,970	1,100	366	213	195
21	474	23,600	3,200	24,200	4,920	12,800	5,030	4,880	1,000	366	207	189
22	787	12,400	2,860	11,900	4,630	10,900	4,990	4,700	972	362	204	189
23	661	6,920	2,760	7,250	4,400	13,800	4,920	4,360	948	350	201	183
24	440	4,800	2,600	6,080	4,220	12,800	4,850	3,910	900	346	195	180
25	365	3,800	2,460	11,100	4,020	10,000	4,900	3,460	865	334	192	177
26	322	3,380	2,280	37,200	3,820	8,290	5,100	3,170	830	330	189	174
27	310	3,260	2,080	57,600	3,620	7,040	5,170	2,990	802	326	189	171
28	294	3,280	1,960	58,200	3,480	6,310	4,960	2,890	760	320	186	168
29	286	4,180	1,830	49,100	------	5,800	4,670	2,850	718	306	186	168
30	278	4,260	1,720	28,300	------	5,760	4,340	2,680	678	306	186	171
31	274	------	1,610	20,100	------	5,800	------	2,520	------	302	183	------
TOTAL	8,680	177,944	366,280	353,610	169,730	222,640	151,710	145,500	43,163	13,103	7,156	5,412
MEAN	280	5,931	11,820	11,410	6,062	7,182	5,057	4,694	1,439	423	231	180
MAX	787	25,600	37,300	58,200	14,700	16,400	6,400	6,680	2,450	660	298	201
MIN	195	258	1,610	1,390	3,480	2,730	4,180	2,520	678	302	183	168
CFSM	.28	6.00	12.0	11.5	6.14	7.27	5.12	4.75	1.46	.43	.23	.18
IN.	.33	6.70	13.8	13.3	6.39	8.38	5.71	5.48	1.62	.49	.27	.20
AC-FT	17,220	352,900	726,500	701,400	336,700	441,600	300,900	288,600	85,610	25,990	14,190	10,730

CAL YR 1966: TOTAL 2,001,830 MEAN 5,484 MAX 120,000 MIN 160 CFSM 5.55 IN 75.35 AC-FT 3,971,000
WAT YR 1967: TOTAL 1,664,928 MEAN 4,561 MAX 58,200 MIN 168 CFSM 4.62 IN 62.67 AC-FT 3,302,000

Peak discharge (base, 35,000 cfs).--Dec. 5 (0430 hrs) 46,600 cfs (16.65 ft); Jan. 28 (0800 hrs) 66,400 cfs (21.05 ft).

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Silver Lake basin							
10-3904.	Bridge Creek near Thompson Reservoir, Oreg.1/	S½ sec.29, T.29 S., R.13 E., at culvert on Forest Service road 2800, 10 miles southwest of Silver Lake, and 7.2 miles northwest of Thompson Reservoir.	10.6	1965-67	5-10-67	9.13	28
Malheur and Harney Lakes basin							
10-3923.	Silvies River near Seneca, Oreg.	NW¼NW¼ sec.23, T.16 S., R.29 E., at culvert on Forest Service road 1611 in Malheur National Forest, 100 feet downstream from Wickiup Creek, and 12 miles northwest of Seneca.	18.4	1967	5-10-67	13.06	100
10-3928.	Crowsfoot Creek near Burns, Oreg.	NE¼ sec.29, T.19 S., R.27 E., at culvert on Forest Service road 1843G in Ochoco National Forest, 1 mile upstream from mouth, and 31 miles northwest of Burns.	8.50	1966-67	5- 9-67	8.82	39
10-3939.	Devine Canyon near Burns, Oreg.	NE¼ sec.9, T.21 S., R.31 E., at culvert at U.S. Highway 395, at road to Baker Corral, 0.7 mile north of Ochoco National Forest boundary and 15 miles north of Burns.	4.96	1965-67	4-25-67	12.38	a2
Goose Lake basin							
11-3411.	Salt Creek near Lakeview, Oreg.	NW¼ sec.10, T.38 S., R.20 E., at culvert on U.S. Highway 395, 1.7 miles above mouth, 7 miles north of Lakeview.	5.62	1964-67	5- 9-67	14.94	57
11-3412.	Crane Creek near Lakeview, Oreg.	NW¼ sec.7, T.40 S., R.21 E., at culvert on Crane Creek road in Fremont National Forest, 1.5 miles east of crossing at U.S. Highway 395, and 6 miles southeast of Lakeview.	11.4	1966-67	5- 9-67	14.68	148
Klamath River basin							
11-4918.	Mosquito Creek near Shevlin, Oreg.	SE¼SE¼ sec.32, T.28 S., R.10 E., at culvert on Forest Service road 283A in Winema National Forest, 150 ft south of intersection with road 283, 2 miles southwest of Jacks Corral, and 8 miles southeast of Shevlin.	b2.4	1965-67	5- 9-67	8.41	27
11-4948.	Brownsworth Creek near Bly, Oreg.	NW¼NW¼ sec.28, T.36 S., R.16 E., at culvert on Forest Service road in Fremont National Forest, 2 miles upstream from Hammond Creek, and about 12 miles east of Bly.	2.20	1965-67	-	-	†
11-4978.	Currier Creek near Paisley, Oreg.	NW¼NW¼ sec.18, T.33 S., R.16 E., at culvert on Forest Service road 337, 100 ft east of junction with road 3313 in Fremont National Forest, 1.4 miles upstream from mouth, and 17 miles west of Paisley.	2.46	1965-67	5-10-67	17.58	178
11-5013.	Crystal Creek near Chiloquin, Oreg.	SE¼ sec.2, T.35 S., R.7 E., at culvert on Chiloquin Ridge road in Winema National Forest, 200 ft upstream from mouth, and 1.5 miles southeast of Chiloquin.	5.77	1965-67	6-20-67	13.45	21
11-5044.	Threemile Creek near Crystal, Oreg.	SE¼ sec.3, T.34 S., R.6 E., at culvert on Forest Service road 3413 in Winema National Forest, 1.5 miles upstream from mouth, and 4 miles north of Crystal.	9.47	1965-67	5-27-67	11.12	42
11-5055.5	Lost Creek near Rocky Point, Oreg.	SE¼ sec.26, T.35 S., R.5 E., at culvert on Forest Service road 3561 in Winema National Forest, 1.5 miles east of Long Lake, and 5.5 miles west of Rocky Point.	13.2	1966-67	5-27-67	9.45	73
11-5094.	Klamath River tributary near Keno, Oreg.	SW¼ sec.35, T.39 W., R.7 E., at culvert on State Highway 66, 0.3 mile above mouth, and 1.8 miles west of Keno.	1.02	1964-67	5-12-67	11.24	c.50
Malheur River basin							
13-2139.	Malheur River tributary near Drewsey, Oreg.	S½ sec.36, T.20 S., R.35 E., at culvert on county road to Drewsey, 200 feet north of U.S. Highway 20, and 2 miles south of Drewsey.	2.29	1964-67	3-10-67	10.62	87
13-2294.	Lost Valley Creek tributary near Ironside, Oreg.	SW¼ sec.26, T.14 S., R.39 E., on U.S. Highway 26, 2.2 miles east of Ironside.	1.86	1966-67	3-10-67	6.58	5.4
13-2317.	Canyon Creek tributary near Brogan, Oreg.	NW¼ sec.18, T.15 S., R.42 E., on U.S. Highway 27, 5.8 miles west of Brogan.	1.24	1966-67	-	-	a0

1/Formerly published as Bridge Creek near Silver Lake, Oreg. † Discharge not determined.
a Estimated. b Approximately. c Maximum observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Moores Hollow basin					
13-2692.	Moores Hollow tributary near Weiser, Idaho.	SE¼SE¼ sec.18, T.16 S., R.46 E., at culvert on Interstate Highway 80N., 7.0 miles southeast of junction with U.S. Highway 30, and 8.0 miles southwest of Weiser.	0.90	1964-67	3-10-67	19.34	20
		Burnt River basin					
13-2723.	Job Creek tributary near Unity, Oreg.	S½ sec.5, T.13 S., R.37 E., on State Highway 7, 100 feet north of U.S. Highway 26 junction, and 2 miles north of Unity.	-	1966-67	1-28-67	11.75	6.6
13-2746.	Burnt River tributary at Durkee, Oreg.	SE¼ sec.28, T.11 S., R.43 E., on Interstate Highway 80N., 0.8 mile southeast of Durkee.	1.80	1966-67	-	-	d0
		Powder River basin					
13-2758.	Sutton Creek tributary near Baker, Oreg.	NW¼ sec.7, T.10 S., R.41 E., on Interstate Highway 80N., 4.9 miles southeast of Baker.	5.25	1966-67	-	-	d0
13-2818.	Antone Creek near North Powder, Oreg.	NE¼ sec.10, T.7 S., R.37 E., at culvert on Forest Service road S73 in Wallowa-Whitman National Forest, 12 miles southwest of North Powder.	4.39	1965-67	3-10-67	11.54	105
13-2891.	Immigrant Gulch near Richland, Oreg.	NW¼ sec.18, T.9 S., R.46 E., at culvert on State Highway 86, 1.9 miles northeast of Richland, and 2.0 miles above maximum flow line of Brownlee Reservoir.	6.64	1964-67	3-10-67	7.03	82
		Pine Creek basin					
13-2901.5	North Pine Creek near Homestead, Oreg.	NW¼ sec.31, T.21 N., R.48 E., at culvert on Forest Service road S51, 5 miles northwest of Homestead.	2.89	1965-67	-	-	†
		Imnaha River basin					
13-2912.	Mahogany Creek near Homestead, Oreg.	NW¼ sec.19, T.4 S., R.48 E., at culvert on Forest Service road S115, 1.8 miles north of Gumboot Creek, 12 miles north of Homestead.	4.00	1965-67	6-18-67	10.95	71
13-2914.	Deer Creek near Imnaha, Oreg.	SW¼ sec.23, T.1 N., R.48 E., at culvert on Forest Service road N206 in Wallowa-Whitman National Forest, 2 miles southeast of Imnaha.	1.73	1965-67	-	-	†
		Grande Ronde River basin					
13-3181.	McIntyre Creek near Starkey, Oreg.	SE¼SE¼ sec.5, T.3 S., R.35 E., at culvert on Forest Service road S217 in Wallowa-Whitman Forest, 1.8 miles south of Union County line, and 7 miles north of Starkey.	1.80	1966-67	1-19-67	13.78	9.7
13-3204.	Little Creek at High Valley, near Union, Oreg.2/	SW¼SE¼ sec.14, T.4 W., R.40 E., at bridge on county road, 4 miles east of Union.	*15.8	1948, 1952-67	1-29-67	9.77	42
13-3213.	Ladd Canyon near Hot Lake, Oreg.	On sec. line 23 and 24, T.4 S., R.38 E., at culvert on U.S. Highway 30, 4 miles southwest of Hot Lake.	15.5	1953, 1958-67	1-29-67	19.98	132
13-3223.	Dry Creek near Bingham Springs, Oreg.	NE¼SE¼ sec.24, T.2 N., R.37 E., at culvert on Forest Service road N32 (Ruckel Road), 9 miles southeast of Bingham Springs.	1.37	1965-67	-	-	†
13-3241.5	Rysdam Canyon tributary near Minam, Oreg.	NE¼ sec.34, T.2 N., R.40 E., on county road in Cricket Flat, 3.5 miles west of Minam.	.99	1966-67	6-15-67	23.22	16.4
13-3297.	Trout Creek tributary near Chico, Oreg.	Center sec.1, T.1 N., R.44 E., on State Highway 3, 1.0 mile south of Wallowa-Whitman National Forest boundary, and 9 miles southwest of Chico.	.26	1966-67	6-15-67	9.33	6.2
13-3297.5	Trout Creek tributary near Enterprise, Oreg.	NW¼ sec.35, T.1 S., R.44 E., on State Highway 3, 0.9 mile north of Enterprise.	4.38	1966-67	6-15-67	19.14	115
13-3330.5	Buford Creek near Flora, Oreg.	On sec. line 23 and 26, T.5 N., R.44 E., on county road, 2.0 miles southeast of Flora.	.40	1966-67	5-15-67	8.08	4.2
13-3331.	Doe Creek near Imnaha, Oreg.	NE¼ sec.14, T.3 N., R.46 E., at culvert on Forest Service road N431, 0.1 mile north of Vigne Forest Camp.	5.20	1965-67	5-15-67	6.07	36
		Walla Walla River basin					
14-0160.8	Dry Creek tributary near Milton-Freewater, Oreg.	NE¼ sec.26, T.5 N., R.35 E., on State Highway 11, 2.6 miles south of Milton-Freewater.	1.22	1966-67	3-10-67	18.31	7.6

2/Formerly published as Little Creek near Union, Oreg.
* Revised.
† Discharge not determined.
d No flow observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Cold Springs Canyon basin							
14-0191.2	North Fork Cold Springs Canyon tributary at Holdman, Oreg.	N½ sec.34, T.5 N., R.31 E., on county road, 0.6 mile east of Holdman.	2.86	1966-67	-	-	[d]0
Umatilla River basin							
14-0194.	Elbow Creek near Bingham Springs, Oreg.	NE¼ sec.28, T.3 N., R.37 E., at culvert on Forest Service road N32, 200 ft upstream from mouth, and 2.6 miles southeast of Bingham Springs.	.68	1965-67	-	-	†
14-0208.	Mission Creek at St. Andrews Mission, Oreg.3/	SE¼ sec.24, T.2 N., R.33 E., at culvert on county road 0.1 mile east of St. Andrews School and 8 miles east of Pendleton.	*4.45	1958-67	1-19-67	16.47	53
14-0216.	Nelson Creek at Pendleton, Oreg.4/	On line between secs.3 and 4, T.2 N., R.32 E., at culvert on U.S. Highway 395, 0.7 mile upstream from mouth, and 0.5 mile northwest of Pendleton.	2.56	1958-67	1-19-67	13.09	41
14-0321.	Butter Creek tributary near Pine City, Oreg.	NW¼ sec.23, T.2 N., R.27 E., at culvert on State Highway 19, 0.1 mile upstream from mouth, 1.8 miles north of county line, and 4.2 miles north of Pine City.	1.50	1948, 1963-67	-	-	[d]0
Juniper Canyon basin							
14-0342.4	Sanford Canyon tributary near Pine City, Oreg.	SW¼NW¼ sec.17, T.1 N., R.26 E., on county road 0.8 mile north of junction with State Highway 207, and 9 miles west of Pine City.	10.8	1967	-	-	†
Willow Creek basin							
14-0343.7	Willow Creek tributary near Heppner, Oreg.	SW¼ sec.22, T.4 S., R.28 E., at culvert on Willow Creek Road, 300 ft above mouth and 16.1 miles southeast of Heppner.	[b]1.4	1958-67	1-29-67	12.26	8.0
14-0348.3	Cason Creek at Ruggs, Oreg.	SW¼NE¼ sec.34, T.3 S., R.25 E., on Rhea Creek road near junction with State Highway 207, at Ruggs.	2.21	1967	-	-	†
John Day River basin							
14-0368.	John Day River near Prairie City, Oreg.	SE¼SW¼ sec.30, T.14 S., R.35 E., at culvert on Forest Service road 1427 in Malheur National Forest, 200 ft downstream from Call Creek, and 12 miles southeast of Prairie City.	17.4	1965-67	6- 1-67	8.78	125
14-0385.5	East Fork Canyon Creek near Canyon City, Oreg.	NE¼ sec.30, T.15 S., R.32 E., at culvert on Forest Service road 1451 in Malheur National Forest, at mouth, and 10 miles south of Canyon City.	24.8	1965-67	5-15-67	13.18	260
14-0386.	Vance Creek near Canyon City, Oreg.	NE¼ sec.10, T.15 S., R.31 E., at culvert on U.S. Highway 395, at confluence with South Fork, 1.0 mile upstream from mouth, and 9.5 miles south of Canyon City.	6.54	1964-67	5-18-67	11.57	9.6
14-0387.5	Beech Creek near Fox, Oreg.	SE¼ sec.33, T.11 S., R.30 E., at entrance to Beech Creek Forest Camp on U.S. Highway 395, 6.8 miles south of Fox, and 15.9 miles north of Mt. Vernon.	1.94	1965-67	6-27-67	11.34	[c]6.0
14-0389.	Fields Creek near Mt. Vernon, Oreg.	SE¼ sec.35, T.13 S., R.28 E., at culvert on Forest Service road 1451 in Malheur National Forest, 0.3 mile upstream from Big Canyon, and 10 miles west of Mt. Vernon.	17.5	1965-67	1-26-67	9.31	43
14-0392.	Venator Creek near Silvies, Oreg.	NW¼ sec.20, T.18 S., R.29 E., at culvert on Forest Service road 1877 in Malheur National Forest, 1.5 miles above mouth, and 16 miles west of Silvies.	11.9	1966-67	5-15-67	11.59	57
14-0419.	Line Creek near Lehman Springs, Oreg.	NW¼ sec.3, T.5 S., R.33 E., at culvert on Forest Service road 26, 0.2 mile upstream from the mouth, and 2.8 miles northwest of Lehman Springs.	[b]2.4	1965-67	5-15-67	10.89	12
14-0438.	Bridge Creek near Prairie City, Oreg.	NE¼ sec.7, T.12 S., R.35 E., at culvert at intersection of Looney Springs Road and U.S. Highway 26, 3.1 miles east of Dixie Summit, and 13.4 miles east of Prairie City.	6.93	1964-67	5-18-67	8.35	42
14-0438.5	Cottonwood Creek near Galena, Oreg.	SE¼ sec.33, T.10 S., R.32 E., at culvert on Forest Service road, 2.1 miles upstream from mouth, and 4.8 miles southwest of Galena.	3.89	1965-67	5-18-67	10.89	42
14-0439.	Granite Creek near Dale, Oreg.	NW¼ sec.8, T.8 S., R.31 E., at culvert on U.S. Highway 395, 4.7 miles north of bridge on Middle Fork John Day River, and 8.2 miles south of Dale.	1.90	1965-67	6-29-67	13.98	[c]26

3/Formerly published as Spring Creek at St. Andrews Mission, Oreg.
4/Formerly published as Umatilla River tributary near Pendleton, Oreg.
* Revised. † Discharge not determined. b Approximately. c Maximum observed. d No flow observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		John Day River basin--Continued					
14-0462.5	Ives Canyon near Spray, Oreg.	SE¼NE¼ sec.22, T.8 S., R.25 E., on State Highway 207, 4 miles northeast of Spray.	2.73	1967	-	-	†
14-0464.	Donnely Creek tributary near Service Creek, Oreg.	SE¼ sec.19, T.9 S., R.23 E., at two culverts on State Highway 207, 1.8 miles south of Service Creek.	1.85	1964-67	5-15-67	10.04	14
14-0469.	John Day River tributary near Clarno, Oreg.	NE¼ sec.4, T.8 S., R.18 E., at culvert on State Highway 218, 5 miles west of Clarno, and 8 miles east of Antelope.	*1.36	1959-67	1-28-67	25.74	33
14-0473.	Condon Canyon tributary near Condon, Oreg.	NW¼ sec.23, T.4 S., R.21 E., at culvert on State Highway 19, at mouth, and 1.9 miles south of Condon.	1.03	1964-67	-	-	d0
14-0473.5	Rock Creek tributary near Hardman, Oreg.	NE¼ sec.2, T.6 S., R.26 E., at culvert on Forest Service road 618 in Umatilla National Forest, 0.5 mile upstream from mouth, and 8.5 miles southeast of Hardman.	-	1965-67	1-29-67	13.25	†
14-0474.5	Dry Fork tributary near Gooseberry, Oreg.	SE¼SE¼ sec.20, T.3 S., R.23 E., on State Highway 206, 3.5 miles west of Gooseberry.	1.31	1967	-	-	†
14-0480.2	Grass Valley Canyon near Grass Valley, Oreg.	NW¼ sec.35, T.2 S., R.16 E., at culvert on county road, 1 mile northeast of Grass Valley.	8.15	1958-67	1-28-67	15.30	68
14-0480.4	Gordon Hollow at DeMoss Springs, Oreg.	NW¼ sec.3, T.1 S., R.17 E., at culvert on U.S. Highway 97 at DeMoss Springs, 0.1 mile above Barnum Canyon.	8.86	1959-67	1-28-67	9.56	167
14-0480.8	Buck Canyon near Klondike, Oreg.	SW¼ sec.32, T.1 N., R.18 E., at culvert on State Highway 206, 0.3 mile upstream from mouth, and 4 miles south of Klondike.	3.42	1953, 1961-67	1-28-67	9.1	a5.0
		Spanish Hollow basin					
14-0483.	Spanish Hollow at Wasco, Oreg.	NE¼ sec.9, T.1 N., R.17 E., at culvert on street in southeast Wasco.	8.05	1959-67	-	-	d0
14-0483.1	Spanish Hollow tributary at Wasco, Oreg.	On sec. line 5 and 8, T.1 N., R.17 E., on State Highway 206, 0.9 mile west of Wasco.	6.13	1967	-	-	†
		Deschutes River basin					
14-0778.	East Fork Wolf Creek near Paulina, Oreg.	SW¼SW¼ sec.11, T.15 S., R.24 E., at culvert on Forest Service road 1438 in Ochoco National Forest, 1.7 miles south of Crook County line, 13 miles northeast of Paulina.	2.02	1965-67	12-13-66	9.50	100
14-0782.	South Fork Crooked River tributary near Hampton, Oreg.	SW¼ sec.8, T.23 S., R.23 E., at culvert on U.S. Highway 20, in Glass Mountain conservation area, and 15.5 miles east of Hampton.	19.6	1965-67	12-13-66	6.54	8.4
14-0784.	Lookout Creek near Post, Oreg.	SW¼ sec.32, T.14 S., R.21 E., at culvert on Forest Service road 143 at junction with road 1578 in Ochoco National Forest, and 16 miles northeast of Post.	7.53	1966-67	12-13-66	7.29	36
14-0818.	Ahalt Creek near Mitchell, Oreg.	NE¼ sec.20, T.13 S., R.20 E., at culvert on Walton Lake Road, 200 ft above mouth and 14 miles southwest of Mitchell.	2.28	1956-67	5-27-67	7.44	24
14-0923.	Willow Creek tributary near Culver, Oreg.	SE¼ sec.20, T.12 S., R.14 E., at culvert on Highway 26, 0.4 mile upstream from the mouth, and 7 miles east of Culver.	7.47	1965-67	3-10-67	9.87	12
14-0937.	Trout Creek tributary at Ashwood, Oreg.	SW¼ sec.36, T.9 S., R.16 E., at culvert on county road, 0.1 mile above mouth and 0.3 mile north of Ashwood.	a1.9	1959-67	-	-	d0
14-0943.	Cow Canyon Creek near Antelope, Oreg.	NW¼SW¼ sec.27 (revised), T.8 S., R.15 E., at culvert on U.S. Highway 97, 2.6 miles north of Willowdale, and 11 miles southwest of Antelope.	2.71	1959-67	-	-	d0
14-0952.	Sagebrush Creek tributary near Gateway, Oreg.	E½ sec.27, T.9 S., R.14 E., at culvert on U.S. Highway 97, 1 mile above mouth and 11 miles north of Madras.	b7.4	1957-67	8-14-67	13.49	134
14-1008.	Jordon Creek near Tygh Valley, Oreg.	SW¼NE¼ sec.6, T.3 S., R.12 E., at culvert on Forest Service road S207, 11 miles northwest of Tygh Valley.	9.01	1965-67	1-28-67	12.11	89
		Fifteenmile Creek basin					
14-1041.	Ramsey Creek near Dufur, Oreg.	NW¼ sec.13, T.2 S., R.11 E., at culvert on Forest Service road S207, 12 miles west of Dufur.	3.87	1965-67	1-28-67	10.58	24

* Revised.
† Discharge not determined.
a Estimated.
b Approximately.
d No flow observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Willamette River basin					
14-1447.75	Noisy Creek near McCredie Springs, Oreg.	SE¼NW¼ sec.11, T.24 S., R.4 E., at culvert on Forest Service road 211, 0.5 mile upstream from mouth, and 14 miles south of McCredie Springs.	5.20	1965-67	1-28-67	14.55	140
14-1448.7	Middle Fork Willamette River tributary near Oakridge, Oreg.	SW¼ sec.10, T.22 S., R.3 E., at culvert on Rigdon Road, 400 ft above Hills Creek Reservoir and 5.0 miles south of Oakridge.	.50	1960-67	11-16-66	14.85	c10
14-1456.9	Swamp Creek near McCredie Springs, Oreg.	NE¼SE¼ sec.16, T.22 S., R.5 E., at culvert on Forest Service road 2156, 0.7 mile upstream from the mouth, and 5.1 miles southeast of McCredie Springs.	1.51	1965-67	3- 1-67	7.23	c3
14-1464.	Mule Creek near McCredie Springs, Oreg.	NE¼ sec.29, T.20 S., R.5 E., at culvert on Forest Service road 202 in Willamette National Forest, 7 miles northeast of McCredie Springs.	1.48	1965-67	3- 1-67	8.94	c16
14-1474.	Tumble Creek near Westfir, Oreg.	N½NE¼ sec.31, T.19 S., R.4 E., at culvert on Forest Service road 196 in Willamette National Forest, at mouth, and 10.5 miles northeast of Westfir.	1.52	1965-67	1-28-67	7.97	20
14-1487.	Fern Creek near Lowell, Oreg.	W½NW¼ sec.3, T.20 S., R.1 E., at culvert on State Highway 58, at mouth, and 6 miles southeast of Lowell.	.44	1953-67	1-10-67	4.71	c4.3
14-1582.5	Hackleman Creek near Upper Soda, Oreg.	NW¼ sec.32, T.13 S., R.6 E., at culvert on U.S. Highway 20, 1.3 miles above Indian Creek and 7 miles east of Upper Soda.	.21	1953-67	6- 5-67	2.46	16
14-1589.5	Twisty Creek near Belknap Springs, Oreg.	Probably in NE¼ sec.35 (unsurveyed), T.15 S., R.6 E., at culvert on Forest Service road 1558 in Willamette National Forest, 0.8 mile upstream from mouth, and 2.5 miles north of Belknap Springs.	1.18	1965-67	1-28-67	20.04	21
14-1616.	Lookout Creek tributary near Blue River, Oreg.	NW¼ sec.6, T.16 S., R.5 E., at weir 0.2 mile above mouth in H. J. Andrews Experimental Forest, and 5.4 miles northeast of town of Blue River.	.37	1954-67	1-28-67	2.75	37
14-1697.	Bear Creek near Cheshire, Oreg.	SE¼ sec.24, T.16 S., R.6 W., at culvert on State Highway 36, 0.5 mile above Goldson mill pond and 4.2 miles southwest of Cheshire.	5.19	1956-67	1-28-67	18.67	165
14-1723.	Butte Creek near Plainview, Oreg.	NW¼NE¼ sec.5, T.13 S., R.2 W., at culvert on county road, 2.9 miles east of Plainview.	5.06	1955-67	1-28-67	14.39	164
14-1741.	Cox Creek at Albany, Oreg.	SW¼ sec.4, T.11 S., R.3 W., at dam at Waverly Lake outlet, in North Albany.	15.2	1953-67	1-28-67	11.58	460
14-1786.	Short Creek at Breitenbush Hot Springs, Oreg.	S½SW¼ sec.17, T.9 S., R.7 E., at culvert on Forest Service road S906, 0.5 mile above mouth and 0.5 mile northwest of Breitenbush Hot Springs.	2.00	1965-67	1-28-67	6.95	†
14-1788.	Wind Creek near Detroit, Oreg.	NE¼ sec.31, T.9 S., R.6 E., at culvert on Breitenbush River road, 0.1 mile above mouth and 2 miles northeast of Detroit.	1.03	1954-67	1-28-67	10.16	68
14-1817.	North Santiam River tributary near Gates, Oreg.	SW¼ sec.25, T.9 S., R.3 E., at culvert on State Highway 22, 0.1 mile above mouth and 1.3 miles east of Gates.	*.41	1952-67	12-13-66	16.46	54
14-1849.	Sheek Creek near Cascadia, Oreg.	SW¼SE¼ sec.36, T.13 S., R.2 E., at culvert on U.S. Highway 20 at Cascadia Ranger Station, 0.1 mile above mouth and 1.5 miles west of Cascadia.	.89	1953-67	1-28-67	12.17	23
14-1858.5	Little Meadow Creek near Detroit, Oreg.	SW¼ sec.29, T.11 S., R.5 E., (unsurveyed), at culvert on Forest Service road 1177 in Willamette National Forest, 0.2 mile upstream from mouth, and 11 miles south of Detroit.	1.29	1966-67	-	-	†
14-1902.	Waymire Creek near Falls City, Oreg.	NW¼ sec.22, T.8 S., R.6 W., at culvert on county road, 0.8 mile above mouth and 1 mile east of Falls City.	3.46	1954-67	1-28-67	12.80	209
14-1906.	Soap Creek tributary near Suver, Oreg.	SW¼NE¼ sec.18, T.10 S., R.4 W., at culvert on U.S. Highway 99 W., 1.2 miles south of Polk County line and 3 miles south of Suver.	.57	1953-67	1-28-67	3.41	38
14-1921.	Glenn Creek near Salem, Oreg.	SE¼NW¼ sec.20, T.7 S., R.3 W., at culvert on Glenn Creek road, near intersection with Ferry Road, 1.5 miles northwest of Salem.	2.72	1952-67	1-28-67	16.74	59
14-1928.	South Yamhill River tributary near Willamina, Oreg.	SW¼ sec.18, T.6 S., R.6 W., at culvert on State Highway 22, 2 miles above mouth and 3 miles southeast of Willamina.	1.81	1954-67	12- 4-66	10.00	114
14-1973.	Panther Creek near Carlton, Oreg.	SW¼ sec.18, T.3 S., R.5 W., at diversion dam, 1.6 miles above Fall Creek and 9 miles west of Carlton.	3.19	1953-67	12-13-66	13.69	220
14-1997.	Bull Creek near Colton, Oreg.	NE¼ sec.6, T.5 S., R.3 E., at culvert on State Highway 211, 300 ft above mouth and 2.2 miles west of Colton.	4.16	1953, 1957-67	12-13-66	11.83	32

* Revised.
† Discharge not determined.
c Maximum observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Willamette River basin--Continued					
14-2038.	Beaver Creek near Glenwood, Oreg.	SW¼ sec.10, T.2 N., R.5 W., at culvert on county road, 1.7 miles northwest of Glenwood and 2.5 miles above mouth.	4.31	1952-67	12-13-66	17.69	318
14-2041.	Bateman Creek near Glenwood, Oreg.	SW¼ sec.26, T.2 N., R.5 W., at culvert on State Highway 6 at mouth, 1.5 miles south of Glenwood.	1.27	1952-67	12-13-66	12.08	63
14-2079.2	Poop Creek near Big Bottom, Oreg.	SW¼ sec.9 (unsurveyed), T.7 S., R.8 E., at culvert on Forest Service road S650 in Mt. Hood National Forest, at mouth, and 3 miles southwest of Big Bottom.	1.74	1966-67	1-28-67	11.38	3.9
14-2082.	Collawash River tributary near Breitenbush Hot Springs, Oreg.	NE¼SE¼ sec.25, T.7 S., R.6 E., on Forest Service road S63, 10 miles north of Breitenbush Hot Springs.	.39	1966-67	1-28-67	27.04	22
14-2088.5	East Fork Shellrock Creek near Government Camp, Oreg.	NE¼NW¼ sec.13, T.5 S., R.7 E., at culvert on Forest Service road 58B, 0.5 mile upstream from mouth, 13 miles southwest of Government Camp.	2.30	1965-67	1-28-67	10.80	28
14-2091.	Kink Creek near Government Camp, Oreg.	SW¼ sec.4, T.6 S., R.7 E., at culvert 0.1 mile below Kelly Creek, 0.2 mile above mouth at Lake Harriet, and 19 miles southwest of Government Camp.	3.75	1957-67	1-28-67	16.09	41
14-2097.5	Whisky Creek near Estacada, Oreg.	N½ sec.23, T.4 S., R.5 E., at culvert on Forest Service road S457, 0.2 mile upstream from mouth and 10 miles southeast of Estacada.	1.06	1965-67	1-28-67	12.22	16
14-2099.	DuBois Creek at Estacada, Oreg.	NW¼ sec.29, T.3 S., R.4 E., at culvert 0.4 mile above mouth and 0.5 mile southwest of Estacada.	2.52	1957-67	12-28-66	15.56	[c]12
14-2118.	Saltzman Creek at Portland, Oreg.	SE¼SE¼ sec.13, T.1 N., R.1 W., at culvert at intersection of N.W. Balboa and Culebra Streets in Portland and 0.3 mile above mouth.	1.46	1952-67	12-13-66	11.84	55
		Necanicum River basin					
14-2990.	South Fork Necanicum River near Seaside, Oreg.	NW¼ sec.29, T.5 N., R.9 W., at diversion dam on Hollenback road, 1.4 miles above mouth and 8 miles southeast of Seaside.	7.99	1953-67	12-13-66	8.42	2,560
		Asbury Creek basin					
14-2995.	Asbury Creek near Cannon Beach, Oreg.	SW¼ sec.19, T.4 N., R.10 W., at culvert on U.S. Highway 101 at Arch Cape, 0.1 mile above mouth and 6 miles south of Cannon Beach.	1.97	1952-67	1-28-67	7.99	190
		Nehalem River basin					
14-3002.	Oak Ranch Creek near Vernonia, Oreg.	NW¼ sec.1, T.5 N., R.4 W., at culvert on county road, 1.9 miles above mouth and 7 miles north of Vernonia.	11.6	1959-67	12-13-66	14.69	251
		Patterson Creek basin					
14-3014.	Patterson Creek at Bay City, Oreg.	SE¼ sec.34, T.1 N., R.10 W., at culvert on U.S. Highway 101 in Bay City, 0.3 mile above mouth.	1.87	1952-67	12-13-66	11.96	128
		Little Nestucca River basin					
14-3036.5	Squaw Creek near Neskowin, Oreg.	NW¼ sec.27, T.5 S., R.10 W., at culvert on Forest Service road S533, 1.0 mile upstream from the mouth and 4.4 miles east of Neskowin.	2.11	1965-67	12-13-66	14.58	172
		Salmon River basin					
14-3037.	Alder Brook near Rose Lodge, Oreg.	SE¼ sec.25, T.6 S., R.10 W., at culvert on State Highway 18, 0.1 mile above mouth and 1.5 miles northeast of Rose Lodge.	1.09	1954-67	12- 4-66	11.53	76
		Alsea River basin					
14-3068.3	Lyndon Creek near Waldport, Oreg.	SE¼ sec.11, T.13 S., R.11 W., at culvert on Forest Service road 1245, 4.2 miles northeast of Waldport.	.90	1965-67	12-28-66	6.66	40
14-3068.6	Eckman Creek near Waldport, Oreg.	NW¼ sec.33, T.13 S., T.13 S., R.11 W., on private road, 2.2 miles southeast of Waldport.	5.17	1966-67	1-28-67	23.75	220

c Maximum observed.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Mill Creek basin					
14-3068.8	Mill Creek near Yachats, Oreg.	NE¼ sec.34, T.15 S., R.12 W., at culvert on Forest Service road 1571 in Siuslaw National Forest, 0.2 mile upstream from mouth, and 7 miles south of Yachats.	1.65	1966-67	1-28-67	10.48	126
		Siuslaw River basin					
14-3075.5	Deadwood Creek tributary at Alpha, Oreg.	SE¼ sec.18, T.16 S., R.8 W., at culvert on county road, 500 ft above mouth and 0.5 mile north of Alpha.	.75	1957-67	1-28-67	17.33	58
14-3076.1	Siuslaw River tributary near Rainrock, Oreg.	NW¼ sec.27, T.17 S., R.10 W., at culvert on State Highway 36 at mouth, 1.3 miles west of Rainrock.	.42	1957-67	1-28-67	6.73	17
14-3076.4	Sam Creek near Minerva, Oreg.	NE¼ sec.25, T.16 S., R.11 W., at culvert on Forest Service road 1658, 5.6 miles north of Minerva.	2.58	1965-67	1-28-67	11.41	320
		Umpqua River basin					
14-3076.85	Mult Creek near Tiller, Oreg.	SW¼ sec.30, T.2 S., R.1 E., at culvert on Forest Service road 2423, at mouth, 15.5 miles northeast of Tiller.	2.65	1965-67	1-28-67	10.02	128
14-3089.5	Beaver Creek near Drew, Oreg.	NE¼ sec.12, T.32 S., R.3 W., and at culvert on Forest Service road 3232 at junction with road 3102, at mouth, 6.8 miles northeast of Drew.	1.61	1965-67	1-28-67	8.01	32
14-3109.	West Fork Frozen Creek near Myrtle Creek, Oreg.	SE¼SW¼ sec.32, T.28 S., R.4 W., at culvert on Frozen Creek road, 6.2 miles northeast of town of Myrtle Creek.	3.16	1955-67	1-28-67	17.15	132
14-3121.	Parrott Creek at Roseburg, Oreg.	NE¼ sec.25, T.27 S., R.6 W., at culvert on Starmer Street in Roseburg, 0.5 mile above mouth.	2.42	1952-67	1-28-67	11.02	84
14-3123.	Marks Creek near Roseburg, Oreg.	NE¼SW¼ sec.3, T.27 S., R.6 W., at culvert on Garden Valley road, 1 mile above mouth and 3.8 miles northwest of Roseburg.	1.26	1952-67	1-28-67	11.43	100
14-3127.	Thielsen Creek near Diamond Lake, Oreg.	SW¼ sec.17, T.27 S., R.6 E., (unsurveyed), at culvert on State Highway 209 in Umpqua National Forest, 3 miles north of resort of Diamond Lake.	12.2	1966-67	1-28-67	9.98	21
14-3166.	Dog Creek near Idleyld Park, Oreg.	NE¼ sec.24, T.26 S., R.1 E., at culvert on North Umpqua River highway, at mouth, 20 miles east of Idleyld Park.	3.93	1965-67	1-28-67	8.33	84
14-3166.5	Fugawee Creek near Disston, Oreg.	NE¼ sec.12, T.24 S., R.1 E., at culvert on Forest Service road 2423, at mouth, 15 miles southeast of Disston.	2.01	1965-67	1-28-67	12.78	239
14-3177.	White Creek near Peel, Oreg.	NW¼ sec.17, T.27 S., R.1 W., at culvert on Forest Service road 274 in Umpqua National Forest, 0.4 mile upstream from mouth, and 9.5 miles east of Peel.	3.92	1965-67	1-28-67	9.55	108
14-3178.	Cavitt Creek near Peel, Oreg. (station discontinued).	NE¼ sec.14, T.27 S., R.3 W., 1.5 miles above mouth and 1.5 miles south of Peel.	56.9	1956-67	11-14-66	6.26	1,780
14-3186.	North Umpqua River tributary near Glide, Oreg.	SE¼ sec.9, T.26 S., R.4 W., at culvert on county road, 0.1 mile above mouth and 3.7 miles northwest of Glide.	.75	1956-67	11-14-66	9.99	25
14-3206.	Cabin Creek tributary near Oakland, Oreg.	SE¼ sec.32, T.24 S., R.5 W., at culvert on U.S. Highway 99, 0.2 mile above mouth and 1 mile northwest of Oakland.	1.28	1957-67	1-28-67	10.23	94
14-3219.	Yoncalla Creek near Yoncalla, Oreg.	SW¼ sec.27, T.22 S., R.5 W., 1.2 miles above mouth and 1.8 miles north of Yoncalla.	26.0	1956-67	12- 4-66	10.13	740
14-3224.	Pass Creek near Drain, Oreg. (station discontinued).	NW¼SW¼ sec.34, T.21 S., R.5 W., 0.2 mile below Sand Creek and 3 miles northeast of Drain.	61.9	1956-67	12- 5-66	6.40	1,330
		Tenmile Creek basin					
14-3233.	Eel Creek at Lakeside, Oreg.	NE¼NE¼ sec.13, T.23 S., R.13 W., at Lakeside Junction 0.8 mile west of Lakeside.	11.0	1958-67	1-30-67	2.83	158
		Coquille River basin					
14-3266.	Gettys Creek near Myrtle Point, Oreg.	SW¼ sec.35, T.29 S., R.13 W., at culvert on county road, 0.2 mile above mouth and 5.5 miles southwest of Myrtle Point.	1.45	1953-67	1-27-67	11.63	112

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Geiger Creek basin					
14-3271.	Geiger Creek near Bandon, Oreg.	SE¼ sec.32, T.28 S., R.14 W., at culvert on county road, 1.1 mile above mouth and 1.8 miles southeast of Bandon.	1.36	1953-67	1-28-67	19.51	56
		Elk Creek basin					
14-3272.4	Milbury Creek near Port Orford, Oreg.	NW¼ sec.16, T.33 S., R.13 W., at culvert on Forest Service road 325 in Siskiyou National Forest, at mouth, and 13 miles east of Port Orford.	.80	1966-67	1-28-67	28.23	65
		Brush Creek basin					
14-3274.	Dry Run Creek near Port Orford, Oreg.	NW¼ sec.25, T.33 S., R.15 W., at culvert in Humbug State Park, at mouth, and 5 miles southeast of Port Orford.	.86	1954-67	11-19-66	13.80	50
		Rogue River basin					
14-3274.9	National Creek near Union Creek, Oreg.	E½ sec.32, T.29 S., R.4 E., at culvert on Forest Service road 2967 in Rogue River National Forest, 0.3 mile upstream from mouth, and 9 miles northeast of town of Union Creek.	19.3	1965-67	1-28-67	18.35	112
14-3334.9	Elkhorn Creek near Prospect, Oreg.	SW¼NW¼ sec.18, T.32 S., R.4 E., at culvert on Forest Service road 3227, 0.2 mile upstream from the mouth, and 5.2 miles northeast of Prospect.	1.50	1965-67	-	-	†
14-3350.8	Fireline Creek near Butte Falls, Oreg.	SE¼ sec.36, T.34 S., R.3 E., at culvert on Forest Service road 3520B in Rogue River National Forest, 0.8 mile upstream from mouth, and 8 miles east of Butte Falls.	4.77	1965-67	1-28-67	8.72	43
14-3392.	Constance Creek near Sams Valley, Oreg.	SW¼ sec.24, T.35 S., R.2 W., at culvert on State Highway 234, 4.5 miles east of Sams Valley.	6.42	1959-67	1-28-67	15.84	400
14-3509.	Neil Creek above Dunn Ditch, near Ashland, Oreg.	SW¼ sec.31, T.39 S., R.2 E., at culvert on U.S. Highway 99 (abandoned) in Rogue River National Forest, 4.5 miles southeast of Ashland.	10.3	1965-67	1-29-67	9.65	82
14-3544.	Butler Creek near Ashland, Oreg.	NE¼ sec.31, T.38 S., R.1 E., at culvert on Interstate Highway 5, 0.3 mile upstream from mouth, and 1.4 miles northwest of Ashland.	5.11	1963-67	1-28-67	19.44	18
14-3613.	Jones Creek near Grants Pass, Oreg.	SE¼ sec.16, T.36 S., R.6 W., at culvert on Interstate Highway 5, near traffic interchange for Foothill Boulevard, and 2 miles east of Grants Pass.	7.41	1952-67	1-28-67	14.17	217
14-3620.5	Kinney Creek near McKee Bridge, Oreg.	NW¼ sec.13, T.40 S., R.4 W., at culvert on Forest Service road 405 in Rogue River National Forest, 1.3 miles upstream from mouth, and 4 miles southwest of McKee Bridge.	2.83	1965-67	12-13-66	8.72	33
14-3698.	Butcherknife Creek near Wonder, Oreg.	NE¼ sec.19, T.37 S., R.7 W., at culvert on county road, 0.1 mile west of U.S. Highway 199, 0.7 mile upstream from mouth, and 2.3 miles southwest of Wonder.	3.07	1953-67	1-18-53	16.40	*283
					1-27-54	16.82	*306
					12-30-54	12.93	56
					12-21-55	16.84	*310
					2-26-57	16.36	*280
					1-29-58	16.65	*295
					1-11-59	16.84	*310
					2- 8-60	14.99	*198
					2-11-61	15.54	*232
					2- 9-62	14.30	*153
					12- 2-62	15.04	*195
					1-20-64	16.54	*280
					12-22-64	17.24	*390
					1- 3-66	17.38	*432
					1-28-67	13.50	129
14-3702.	Round Prairie Creek near Wilderville, Oreg.	SW¼ sec.2, T.37 S., R.7 W., at culvert on U.S. Highway 199, 0.1 mile above mouth and 1.5 miles west of Wilderville.	3.16	1953-67	1-28-67	5.80	215
14-3739.	Windy Creek near Holland, Oreg.	SW¼ sec.36, T.39 S., R.6 W., at culvert on Forest Service road 3941 in Siskiyou National Forest, 0.1 mile upstream from mouth, 2.5 miles north of Oregon Caves National Monument, and 10 miles east of Holland.	2.02	1966-67	12- 3-66	10.62	71
14-3778.	Snailback Creek near Selma, Oreg.	NW¼ sec.7, T.38 S., R.8 W., at culvert on county road, 0.5 mile above mouth and 4.2 miles west of Selma.	1.62	1956-67	3- 1-67	91.89	141
14-3779.	Secret Creek near Wonder, Oreg.	SE½ sec.19, T.36 S., R.8 W., at culvert, 0.5 mile above mouth, 9 miles northwest of Selma.	6.11	1965-67	1-28-67	11.90	360

* Revised.
† Discharge not determined.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Hunter Creek basin					
14-3785.5	Hunter Creek near Gold Beach, Oreg.	NW¼ sec.4 (unsurveyed), T.37 S., R.13 W., at culvert on Forest Service road 368 in Siskiyou National Forest, 8.5 miles east of Gold Beach.	0.98	1965-67	1-28-67	10.08	248
		Harris Creek basin					
14-3788.	Harris Creek near Brookings, Oreg.	NE¼ sec.36, T.40 S., R.14 W., at culvert on U.S. Highway 101, 0.4 mile above mouth and 1.9 miles northwest of Brookings.	1.05	1953-67	11-19-66	16.17	149
		Ransom Creek basin					
14-3789.	Ransom Creek near Brookings, Oreg.	NE¼ sec.1, T.41 S., R.14 W., at culvert on U.S. Highway 101, 0.1 mile above mouth and 1.2 miles northwest of Brookings.	.74	1953-67	11-19-66	24.01	57

Measurements at miscellaneous sites

Measurements of streamflow at points, other than gaging stations or partial-record stations are given in the following table. Measurements are considered to be of base flow unless otherwise designated.

Discharge measurements at miscellaneous sites during water year 1967

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Klamath River basin						
Big Springs Creek	Williamson River in Klamath Marsh.	SE¼ sec.22, T.30 S., R.8 E.	a80	1915-27, 1930, 1949-54, 1956-57, 1969-62, 1964-66	9-22-67	29.1
Williamson River.	Upper Klamath Lake.	NW¼ sec.2, T.34 S., R.7 E.	a1,330	1912-13‡, 1917-25‡, 1942, 1949-54, 1956, 1959-62, 1964-66	9-22-67	24.0
Larkin Creek	Williamson River.	SW¼ sec.11, T.34 S., R.7 E.	(b)	1924-25, 1950-53, 1956, 1957-62, 1964-66	9-27-67	10.3
Shakespeare Creek	..... do	SE¼SE¼ sec.10, T.34 S., R.7 E.	(b)	1964-66	9-22-67	9.58
Spring Creek	..... do	NE¼ sec.9, T.34 S., R.7 E.	21.0	1905, 1914-17, 1919-20, 1922-29, 1931, 1934, 1949-54, 1956, 1959-62, 1964-66	9-22-67	299
Fivemile Creek ..	North Fork Sprague River..	Sec.34, T.35 S., R.13 E.	a40	1917-21‡, 1922-23, 1925-26, 1949-54, 1956, 1959-66	9-21-67	18.8
Medicine Springs.	Sprague River....	SE¼NW¼ sec.13, T.36 S., R.12 E.	(b)	1966	9-21-67	14.0
Sycan River	..... do	SE¼ sec.8, T.35 S., R.12 E.	a540	1912-14, 1915-25‡, 1926, 1949-54, 1956, 1959-66	9-21-67	13.7
Kam Kaun (McCready) Spring.	..... do	Sec.25, T.34 S., R.8 E.	(b)	1949, 1951-54, 1956, 1959-62, 1964-66	9-22-67	40.1
Wood River Springs.	Wood River	SE¼ sec.3, T.33 S., R.7½ E.	(b)	1956, 1959-66	9-23-67	203
Annie Creek	..... do	NE¼ sec.36, T.32 S., R.6 E.	a40	1923-27‡, 1931, 1949-53, 1955-56, 1959-66	9-23-67	52.2
Wood River	Agency Lake	NW¼ sec.22, T.33 S., R.7½ E.	a90	1904-10, 1911-36‡, 1949-66	9-23-67	220

‡ Operated as a continuous-record gaging station.
a Approximately.
b Spring fed.

Discharge measurements at miscellaneous sites during water year 1967--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Klamath River basin--Continued						
Fort Creek	Wood River	SW¼ sec.26, T.33 S., R.7½ E.	(b)	1906-11, 1915-18, 1920-21, 1923-25, 1927-29, 1931, 1949-53, 1955-56, 1959-66	9-23-67	80.4
Spencer Creek ...	Klamath River ...	SW¼ sec.20, T.39 S., R.7 E.	a90	1927, 1929-32‡, 1934, 1949-53, 1955-56, 1959-66	9-23-67	15.7
Walla Walla River basin						
Walla Walla River	Columbia River ..	NE¼SE¼ sec.12, T.5 N., R.35 E.	a140	1965-66	1-29-67	966
					3-24-67	363
					5-22-67	604
					6-21-67	152
					8-22-67	49.5
					9-25-67	63.7
Umatilla River basin						
Meacham Creek ...	Umatilla River ..	NE¼NE¼ sec.31, T.3 N., R.36 E.	a177	1907,1910, 1912-13, 1952-57, 1960-61, 1963-66	12-17-66	302
					1-24-67	221
					1-29-67	1,480
					2-17-67	152
					3-24-67	438
					4-21-67	221
					5-23-67	323
					6-23-67	47.4
					7-23-67	6.76
					9-26-67	9.03
East Birch Creek.	Birch Creek	SW¼SE¼ sec.33, T.1 S., R.32 E.	a70	1964-66	10-24-66	4.86
					12- 8-66	22.6
					2-15-67	19.5
					3-29-67	41.6
					5- 3-67	73.9
					7-10-67	.56
					9-19-67	.04
West Birch Creek.	..... do	NW¼ sec.30, T.1 S., R.32 E.	a90	1964-66	10-24-66	.55
					2-15-67	20.0
					3-29-67	33.3
					5- 3-67	43.9
					7-10-67	.07
					9-19-67	0
John Day River basin						
South Fork John Day River.	John Day River ..	NE¼ sec.24, T.13 S., R.26 E.	a590	1948,1951, 1952-58‡, 1957-61, 1963-64, 1965-66	12-15-66	294
					1-30-67	558
					2-20-67	121
					3-21-67	318
					4-19-67	268
					5- 9-67	786
					5-20-67	766
Snipe Creek	Camas Creek	NW¼ sec.27, T.4 S., R.31 E.	a37	-	4- 6-67	26.8
					4-27-67	22.2
					5- 4-67	17.4
					5-23-67	6.53
					6-13-67	1.31
					6-30-67	.31
					8- 2-67	0
					9- 5-67	0

‡ Operated as continuous-record gaging station.
a Approximately.
b Spring fed.

Discharge measurements at miscellaneous sites during water year 1967--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Deschutes River basin						
Deschutes River	Columbia River	NW¼NW¼ sec.28, T.21 S., R.8 E.	256	1938-49‡, 1950, 1952-57, 1960-66	5-31-67 7-18-67 8-30-67	c612 c707 c692
Davis Creek	Deschutes River	SE¼ sec.5, T.22 S., R.8 E.	141	1946-51, 1954-56, 1960-63, 1966	8-21-67	210
Sandy River basin						
Bedrock Creek	Blazed Alder Creek.	NW¼SE¼ sec.25, T.1 S., R.7 E., (unsurveyed).	4.32	1964	6-19-67 8- 2-67 9-28-67	9.45 2.51 1.15
Hickman Creek	..... do	NW¼SE¼ sec.25, T.1 S., R.7 E., (unsurveyed).	3.80	1964	6-19-67 8- 2-67 9-28-67	7.44 1.19 .78
Willamette River basin						
Bunchgrass Creek.	Smith River	SW¼SW¼ sec.36, T.14 S., R.6 E.	2.95	1963-66	10- 5-66 1-10-67 2-23-67 4-12-67 6- 8-67 7-13-67 8-22-67 9-26-67	4.74 *11.9 *13.4 *10.6 11.4 8.80 4.91 3.87
McKenzie River	Willamette River.	NW¼NE¼ sec.6, T.12 S., R.2 E.	-	1962-64	9-26-67	518
Tualatin River	..... do	SE¼SE¼ sec.26, T.1 S., R.5 W.	30.1	1965-66	10-13-66 11- 2-66	6.54 13.8
Do	..... do	SW¼ sec.34, T.1 S., R.4 W.	48.3	1941-56‡	10-14-66 11- 2-66 12- 6-66 12-14-66 1-31-67 3-16-67	9.07 20.0 *877 *1,470 *964 *575
Do	..... do	SW¼ sec.34, T.1 S., R.4 W.	50.7	1966	12- 6-66 12-14-66 1-31-67 3-16-67	*877 *1,470 964 575
Scoggins Creek	Tualatin River	NE¼ sec.18, T.1 S., R.4 W.	23.3	1966	10-13-66 11- 3-66	5.03 6.31
Seine Creek	Scoggins Creek	NE¼ sec.18, T.1 S., R.4 W., at mouth.	11.7	1966	10-13-66 11- 3-66	.70 3.18
Gales Creek	Tualatin River	SE¼ sec.21, T.1 N., R.4 W.	66.1	1941-56‡, 1966	10-14-66 11- 2-66 12- 6-66 12-15-66 1-31-67 3-16-67	9.72 15.0 *1,080 *1,090 1,120 745
Do	..... do	NW¼ sec.7, T.1 S., R.3 W.	73.9	1966	10-13-66 11- 2-66	15.1 17.5
West Fork Dairy Creek	Dairy Creek	NW¼ sec.9, T.2 N., R.4 W.	27.2	1966	11- 1-66	3.82
Do	..... do	SE¼ sec.25, T.2 N., R.4 W.	46.7	1941-43‡, 1966	10-14-66 11- 1-66 12- 5-66 12-15-66 1-31-67 3-15-67	5.72 6.23 *624 *774 678 247
Do	..... do	NW¼ sec.17, T.1 N., R.3 W.	77.2	-	12-21-66 1-30-67 2- 6-67 3-17-67	*563 1,200 635 421

* Not base flow.
‡ Operated as a continuous-record gaging station.
c Base flow from intervening springs can be obtained by substracting flow of Deschutes River below Crane Prairie Reservoir (see sta. no. 14-0540).

Discharge measurements at miscellaneous sites during water year 1967--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Willamette River basin--Continued						
East Fork Dairy Creek.	Dairy Creek	NW¼ sec.33, T.3 N., R.3 W.	25.2	1966	11- 1-66	9.18
Do	..... do	NE¼ sec.27, T.2 N., R.3 W.	43.4	1940-51‡, 1966	10-14-66 11- 1-66	11.0 11.5
Do	..... do	SW¼ sec.9, T.1 N., R.3 W.	65.5	-	12-21-66 1-30-67 2- 6-67 3-17-67	*283 1,390 347 418
McKay Creek	..... do	SE¼ sec.30, T.2 N., R.2 W.	27.6	1941-43‡, 1949-56‡, 1966	10-31-66 12- 5-66 12-16-66 2- 1-67 3-16-67	3.62 *474 *232 264 265
Do	..... do	SE¼NW¼ sec.25, T.1 N., R.3 W.	61.0	-	10-31-66 12-22-66 2- 1-67	5.61 143 586
Dairy Creek	Tualatin River ..	SW¼ sec.36, T.1 N., R.3 W.	230	1966	10-11-66 11- 1-66 12-21-66 2- 1-67	17.5 26.6 *2,550 4,470
Rock Creek	..... do	SW¼ sec.36, T.2 N., R.2 W.	4.75	-	10-31-66	.22
Do	..... do	SE¼ sec.34, T.1 N., R.2 W.	26.3	-	10-31-66	1.19
Beaverton Creek .	Rock Creek	NE¼ sec.3, T.1 S., R.2 W.	37.0	1966	10-31-66	10.9
Burris Creek	Tualatin River ..	SW¼NW¼ sec.6, T.2 S., R.2 W.	3.30	1966	10-11-66 11- 3-66	.16 .29
McFee Creek	..... do	SW¼ sec.18, T.2 S., R.2 W.	6.56	1966	10-11-66 11- 3-66	.78 1.08
Baker Creek	McFee Creek	NW¼ sec.15, T.2 S., R.2 W.	9.31	1966	10-11-66 11- 3-66	1.26 1.70
Chicken Creek ...	Tualatin River ..	NE¼ sec.30, T.2 S., R.1 W.	6.20	-	10-11-66 11- 3-66	1.35 1.49
Fanno Creek	..... do	On line between NW¼NE¼ and NE¼NW¼ sec.27, T.1 S., R.1 W.	10.6	-	9-28-67	3.73
Do	..... do	NW¼NE¼ sec.34, T.1 S., R.1 W.	12.2	-	9-28-67	.30
Do	..... do	NW¼ sec.13, T.2 S., R.1 W.	31.5	1966	10-11-66 11- 4-66	4.99 6.98
Suam Creek	..... do	SE¼SE¼ sec.19, T.2 S., R.1 E.	4.36	1966	10-11-66 11- 4-66	.48 .59
Lower Columbia River basin						
Lewis and Clark Creek.	Columbia River ..	Sec.31, T.7 N., R. 9 W.	38.7	1966	8-23-67	4.98
Necanicum River basin						
Necanicum River .	Pacific Ocean ...	Sec.20, T.5 N., R.9 W.	25	1965-66	8-23-67	4.66
Kilchis River basin						
Kilchis River ...	..... do	SE¼ sec.28, T.1 N., R.9 W.	39.9	1966	8-23-67	13.4
Little Nestucca River basin						
Little Nestucca River.	..... do	Sec.15, T.5 W., R.10 W.	45.7	1966	8-24-67	10.2
Schooner Creek basin						
Schooner Creek ..	..... do	Sec. 30, T.7 S., R.10 W.	38	1965-66	8-24-67	9.56

* Not base flow.
‡ Operated as a continuous-record gaging station.

Discharge measurements at miscellaneous sites during water year 1967--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Drift Creek basin						
Drift Creek	Pacific Ocean ...	Sec.36, T.7 S., R.10 W.	38	1965-66	8-24-67	18.1
Yaquina River basin						
Mill Creek tributary..	Mill Creek	NW¼SW¼ sec.27, T.11 S., R.10 W.	2.35	1959-66	3- 9-67	8.98
Beaver Creek basin						
South Beaver Creek.	Beaver Creek	NE¼SW¼ sec.33, T.12 S., R.11 W.	5.97	1965-66	11- 3-68	4.24
					12- 5-66	*141
					1-26-67	*70.2
					3- 8-67	24.8
					4-19-67	*53.4
					5-24-67	6.46
					7-12-67	1.99
					8-31-67	.95
Yachats River basin						
Yachats River ...	Pacific Ocean ...	Sec.31, T.14 S., R.11 W.	39.0	1965-66	8-24-67	13.3
Umpqua River basin						
Cold Springs	North Umpqua River .	SW¼NE¼ sec.20, T.26 S., R.4 E.	-	-	11-29-66	d30.12
Cavitt Creek	Little River	NE¼ sec.14, T.27 S., R.3 W.	56.9	1955-66	10-20-66	10.9
					12- 6-66	*530
					1- 9-67	*139
					3-31-67	*136
					5-12-67	*139
					6-14-67	*30.3
					7-26-67	9.50
					8-31-67	5.17
Yoncalla Creek ..	Elk Creek	SW¼ sec.27, T.22 S., R.5 W.	26.0	1955-66	10-17-66	0
					12- 1-66	*175
					1-23-67	*162
					3-16-67	*44.0
					4-24-67	*23.2
					6-19-67	.36
					8- 1-67	0
					9-12-67	0
Pass Creek	..... do	NW¼SW¼ sec.34, T.21 S., R.5 W.	61.9	1955-66	10-17-66	2.15
					12- 1-66	70.3
					1-23-67	*434
					3-16-67	95.3
					4-24-67	56.5
					6-19-67	8.36
					8- 2-67	1.01
					9-12-67	0
Tenmile Creek basin						
Eel Creek	Tenmile Creek ...	NE¼NE¼ sec.13, T.23 S., R.13 W.	a11	1957-66	10-27-66	3.35
					11-17-66	*43.2
					12-12-66	*61.5
					2- 6-67	96.9
					3-20-67	*85.3
					5- 8-67	29.3
					6-19-67	10.1
					8-16-67	3.69
					9-18-67	3.10
North Slough basin						
North Slough (known locally as Bear Creek).	Pacific Ocean ...	SW¼NE¼ sec.7, T.24 S., R.12 W.	2.42	1958-66	5- 8-67	5.14
					8-16-67	3.53
Left Branch of North Fork Slough (known) locally as North Slough).	North Fork of North Slough.	NW¼ sec.1, T.24 S., R.13 W.	1.71	1958-66	5- 8-67	4.03
					8-16-67	.27

* Not base flow.
a Approximately.
b Includes measured inflow of 1.56 cfs.

Discharge measurements at miscellaneous sites during water year 1967--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Coos River basin						
West Fork Millicoma River.	Millicoma River .	NE¼NE¼ sec.9, T.24 S., R.11 W.	-	-	8-16-67 9-18-67	2.39 2.94
Coquille River basin						
North Fork Coquille River .	Coquille River ..	NW¼NE¼ sec.29, T.26 S., R.11 W.	28.5	1958-66	8-15-67	4.28
Do	..... do	NE¼NE¼ sec.22, T.28 S., R.12 W.	134	1958-66	8-15-67	5.25
Floras Creek basin						
Floras Creek	Pacific Ocean ...	Sec.3, T.31 S., R.14 W.	48.2	1965-66	8-31-67	1.93
Sixes River basin						
Sixes River	..... do	Sec.11, T.32 S., R.15 W.	112	1965-66	8-31-67	13.3
Elk River basin						
Elk River	..... do	Sec.23, T.33 S., R.14 W.	45	1965-66	8-29-67	21.7
Do	..... do	Sec.8, T.33 S., R.14 W.	61	1965-66	8-29-67	45.3
Euchre Creek basin						
Euchre Creek	..... do	Sec.9, T.33 S., R.14 W.	25.3	1965-66	8-30-67	9.03
Rogue River basin						
Silver Creek	Illinois River ..	SW¼SE¼ sec.16, T.36 S., R.11 W.	80.6	1956, 1958-63, 1966	8-12-67	42.7
Indigo Creek	..... do	NE¼NW¼ sec.4, T.36 S., R.11 W.	76.4	1958-66	8-12-67	24.2
Hunter Creek basin						
Hunter Creek	Pacific Ocean ...	Sec.20, T.37 S., R.14 W.	36.6	1965-66	8-30-67	2.54
Pistol River basin						
Pistol River	..... do	Sec.22, T.38 S., R.14 W.	98	1965-66	8-30-67	11.9
Chetco River basin						
Chetco River	..... do	Sec.8, T.39 S., R.12 W.	213	1965-66	8-30-67	56.0
South Fork Chetco River.	Chetco River	Sec.9, T.39 S., R.12 W.	45	1965-66	8-30-67	11.9
Winchuck River basin						
Winchuk River	Pacific Ocean ...	Sec.5, T.41 S., R.12 W.	54	1965-66	8-30-67	15.3

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